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# Food and Sanitation.

SATURDAY, JANUARY 6, 1900.

#### IMPORTANT NOTICE TO OUR READERS.

COMMENCING with this issue—the first since the New Adulteration Act came into operation—we have permanently enlarged *Food and Sanitation*, enabling us to furnish more matter of interest to our readers and a larger number of legal cases. We shall be obliged if our readers will forward us reports of cases in their districts, and beg to thank the many subscribers who have sent us cuttings and notes, *re* prosecutions, in the past. The new Act, imperfect though it be, possesses many good points, and as it has yet to be licked into shape and its working learnt

through the trying and costly processes of our law courts all who are concerned in its administration or affected thereby will serve their fellows and be benefitted themselves by assisting in making the legal department of *Food and Sanitation* as complete as possible. Every case sent us we shall endeavour to give due prominence to.

## Boracic Acid in Clotted Cream.

### A Questionable Prosecution.

WHILST the question of the injuriousness of boracic acid in food is the subject of a parliamentary inquiry and expert evidence is being given for and against its use we are forced to say we do not think it is playing the game fairly to proceed as the St. George's (Hanover Square) Vestry has done against Hudson Bros., Ltd., upon what—if boracic acid in food be injurious—is unquestionably the least objectionable form in which it could be used. Other local authorities have rightly and fairly dropped prosecutions for the present, and looked in at any light we can see nothing meritorious or even justifiable in the prosecution in question. Our own opinions on preservatives are too well known to require fresh statement and we cannot be accused of favouring the surreptitious drugging of foods when we discuss the wisdom and the fairness of this prosecution. Pure food and the extended sale and encouragement of the use of English and Irish produce have no truer friend than Mr. James Hudson, the head of Hudson Bros., Limited. Only a few weeks ago we heard his knowledgeable indictment of Danish butter and his reasons for encouraging the sale of native butter by placing it in his shops and excluding Danish. In a similar attempt to encourage the clotted cream trade the St. George's (Hanover Square) public analyst, or whoever originates the prosecutions there, has fallen foul of Mr. Hudson.

Let us examine first the justice of the prosecution and then its expediency.

1st.—A Government enquiry is at present being held to determine this very question of the injuriousness or otherwise of boracic acid (as well as a number of other drugs) in food.

2nd.—The bulk of the evidence from scientific investigators already placed at the service of the Committee of Enquiry declares the presence of such a quantity of preservative as was found in Hudson's clotted cream to be quite innocuous.

3rd.—Other local authorities recognising the palpable unfairness of prosecuting for preservatives in food pending the report of the Committee of Enquiry have ceased such prosecutions.

These being the facts how then is the prosecution justified? We must confess our inability to find an answer. It cannot be regarded in the same light as a



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prosecution for boracic acid in milk, because with milk we have the knowledge gained from the practice of many dairymen that the milk is dosed with the boracic acid or other preservative often two or three times over.

But Hudson Bros. are neither accused of putting in any extra boracic acid themselves nor even of being guilty of putting in the amount found in the clotted cream. The firm-acting on the belief which is shared by many of the ablest foreign and English scientific experts, of which Dr. Otto Liebreich in his recent exhaustive study of the

"Effects of Boracic Acid on the Human System" has presented the pros and cons exhaustively, concluding that boracic acid and borax far from being injurious to the human system are really wholesome substances—determined to encourage the Devonshire clotted cream industry as they have done the Irish butter trade, the Chichester table delicacies and other native businesses in preference to produce from abroad. It is beyond dispute that clotted cream will not keep long enough to be sold in London unless a preservative is used, and in this case, a half-pound jar contained only an adults dose. Consumers of clotted cream are not, we suppose, regarded as such gluttons that one person would consume the entire contents of a half-pound jar! In our own experience that quantity is ample for three or four persons. What then becomes of the danger of the dose? Any sensible person can see at once the ridiculousness of the prosecution, yet it costs Hudson Bros. a fine of ten guineas and twenty guineas costs, which, with their own costs, probably will amount to £100, and it squelches a growing home industry. This case will be a strong argument for those who contend that the initiation of prosecutions should be in the hands of Vestry Committees instead of in those of individual officials. It is just this kind of unwarranted fussy faddism that brings the administration of the Acts into disrepute.

## Reports and Analyses.

### Cadbury's Chocolates.

THERE are few things about which parents exercise less care than they do in the sweets their children eat. Indeed, we may go farther, and say that people of all classes—lower, middle and upper,—from the errand boy who consumes with gusto his "hokey pokey," to the sweet-toothed Miss whose ideal of bliss is unlimited butter-scotch, caramels or chocolate-creams, and the many—and there are really many—"grown-up" folks who eat chocolate-creams first, because they are, in fact, the very best sweetmeat known by reason of the high percentage of real nutriment and heating properties they contain, and next because they are toothsome morsels, of which the palate does not readily tire—none of these, or at most a very small percentage ever consider the question of how, where, or by whom the chocolate-creams, croquettes, bon-bons, etc., are prepared, and yet it is a question very well worth consideration.

In another page of our present issue, we furnish a very instructive side-light on how some chocolate-creams, caramels, etc., are concocted by unscrupulous rogues for the "cheap trade." The cream was putrid condensed milk which stank abominably when tins were opened, and which in the opinion of the Medical Officer of Health was likely to cause diarrhoea in children eating the

sweetmeats, and possibly produce ptomaine poisoning. This is not an isolated case—our columns have recorded like discoveries in all parts of London and in the provinces. It therefore seems as though it were really worth the while of parents to give some attention to the quality of the chocolate-cakes, bon-bons, creams, etc., they consume themselves and allow their children to eat. In this, as in many other cases, the best is the cheapest. The best course is to buy products of a maker of repute. The high standing of Cadbury's cocoas and chocolates is well known, the most distinguished dietetists have visited their model factories at Bournville, and eulogised not only the perfect, pure, cleanly methods of manufacture, and the high quality of all substances used in the preparation of the goods, but also the broad-minded practical philanthropy of the heads of the firm in providing schools, gymnasium, cookery classes and real model workmen's dwellings for the employees.

We do not dwell upon the many beautiful forms in which the various delicacies in eating chocolates are made up—that appeals to the artistic side of the buyer—we prefer to dwell on the obvious truth that people should have some guarantee that the chocolates, etc., they eat are prepared from wholesome materials. Those buying Cadbury's can be sure this is the case.

### A HINT TO OWNERS OF LABORATORIES.

THE following makes a good preparation for laboratory benches, to help the wood to resist the action of chemicals spilt on it: Make a solution of 1 lb. sulphate of

copper and 1 lb. of chlorate of potash in 8 lbs. of boiling water. Two coats of this are applied to the wood, and when they are dry two coats of a solution of 3 lbs. hydrochlorate of aniline in 2 gallons of water. Next day rub in some oil, and repeat the oiling monthly.—*Paint, Oil, and Drug Review.*





## Dietetic and Hygienic Notes.

### Curious Phenomena of Drunkenness.

WHY do not those over whom alcohol has obtained a mastery, die of alcoholic poisoning during a drinking bout?

The reason is a strange one, for it would seem as though man's brain has been formed with an automatic brake which arrests the drunkard's arm ere he can take the dose which would be fatal.

In a brilliant study of the workings of the unconscious mind, Dr. Alfred T. Schofield explains how the victim of an alcoholic debauch is protected against himself. Alcohol, as pointed out by Dr. Hughlings Jackson and many others, paralyses the brain from above downwards. If a moderate amount of alcohol only be taken, paralysis does not supervene, but only general excitement of the nerve centres is seen. But if this is exceeded, symptoms of paralysis of the cortex are evident in the loss of voluntary will power and conscious control over actions, consciousness being also lost to a large extent; while at the same time the performance of the most complicated actions, singing well-known songs or dancing well-known dances, shows the paralysis has not as yet extended deeply enough to reach the mid brain or the cerebellum—the small hind brain that governs always unconsciously the equilibrium of the body. Dr. Schofield mentions a striking instance of this state:—

“A lady engaged to play at a private concert took too much to drink at supper, and the result was, she not only kept on playing too long when she returned to the piano, but whenever her fingers rested on the keys, she started playing like an automatic musical box, and could not be stopped.”

This illustrates one stage of alcoholic poisoning, but if now more alcohol be taken a complete change takes place. As the paralysis extends lower, it involves the cerebellum; and the upright position, for some time a matter of difficulty, can now no longer be maintained at all, and the victim now falls down on the floor. At the same time the mid brain shares the paralysis, and all complicated though unconscious habits cease. The man no longer sings or talks or dances, but is quite still. He is now “dead drunk,” which means that the whole of the brain is temporarily paralysed, with the exception of the medulla, which still quietly carries on all the functions of life, and will continue to do so, because at this stage the man always stops drinking and for a very curious reason. It is not because he wishes to do so, for his intelligent will power is long since abolished, while the craving remains, but it is simply because his arm is paralysed, and he can no longer mechanically carry the poison to his lips,—

BUT FOR THIS, THOUSANDS WOULD DIE OF DRINK EVERY NIGHT. Their salvation consists in one simple physiological fact—the arm is always paralysed before the paralysis has had time to reach the medulla. If now, however, some kind friend with his arm pours more alcohol down the person's throat, the medulla at last succumbs, and the man is no longer “dead drunk,” but dead.

Messrs. Hodder and Stoughton, Paternoster Row, London, are the publishers of Dr. Schofield's brilliant book, and the price is 7s. 6d.

\* \* \* \*

### Discovery of an Anti-Anæmia Serum.

PROFESSOR METCHNIKOFF, of the Pasteur Institute, Paris, is, it is said, engaged in seeking the accurate doses of a lymph or lymphs, each of which will rejuvenate some organ of the human body. His experiments show that the explanation of senile atrophy now accepted is wrong in declaring that certain blood cells devoured others when the vital functions weakened.

Organic poisons thrown off energetically in youth were believed to remain in the system in old age, or at

least to be less energetically rejected, and to poison the finer cells while without action upon those of the conjunctive tissues. The noble cells died and became the prey of the others or plebeian cells, thus bringing about the atrophy of the organ where the metamorphosis took place. This explanation is erroneous. Professor Metchnikoff, says *The Pharm. Jour.*, has discovered, and proved conclusively, that the noble cells are not dead in organs atrophied by senility, and, moreover, that they may be multiplied. By assisting them in their struggle with the plebeian cells they will continue to live as actively as in youth. Theoretically, the organism will cease to grow old, and in practice life will be prolonged.

The discovery was made in the following way:—Among Professor Metchnikoff's pupils is Mons. Bordet, who published last year in the *Annales de l'Institut Pasteur* the results of a curious experiment he had made. Mons. Bordet had injected the blood of a rabbit into a guinea-pig. Some time later he injected the blood of this guinea-pig into a rabbit. The rabbit died. Professor Metchnikoff sought the causes of this phenomenon, and soon became convinced that the blood of the guinea-pig injected into a rabbit, or other vertebrate animal, elaborates a poison that weakens the red globules of the blood and makes them the prey of the phagocytes. Under the microscope one can see how the white globules devour the red and digest them. If one places the non-transparent, ordinary blood of a rabbit in a test tube, and add afterwards some of a guinea-pig's blood, before long the rabbit's blood becomes transparent, taking the colour of Bordeaux wine. Starting from the fact that the poison elaborated in the guinea pig is fatal in large doses, Professor Metchnikoff argued that its action in small doses must be stimulating. Thereon is based the action of all medicines like strychnine, arsenic and so forth. Professor Metchnikoff, therefore, began to inject into rabbits feeble solutions of previously injected guinea-pig's blood. The cubic-millimetre of blood in the rabbits thus treated contained before the injections 3,000,000 red globules. In three or four days that number increased to 8,000,000. A sovereign remedy against anæmia had thus been discovered, and Professor Metchnikoff's theory concerning the red globules had been confirmed. His entire section at the Pasteur Institute is now working to find the specific serums for each particular organ. If the blood serum act on the red globules, the liver serum must produce similar effects on the cells of the liver, that of the brain on the brain, and so on. Experiments have demonstrated this. The specific kidney serum was found some few days ago, and Professor Metchnikoff is now determining the exact dose for medical purposes. The discovery has passed the period of mere laboratory experiments. The celebrated Dr. Vida is now at work on human serums. It is remarkable that so many of these discoveries are due almost to accident. It will be remembered that Dr. Roux's great discovery regarding diphtheria was worked on for four years in France and Germany, and was finally completed through a fact that had no relation whatever with the malady in question. When acquainted with the discovery Dr. Polaillon, of the Académie de Médecine, was inclined to be sceptical. “We must see, we must see,” he said. “After all, however, it is not impossible,” he added. “Organic creatures ought to live ten times as long as it takes them to reach maturity.” Elephants, according to Dr. Polaillon, are full grown in thirty years, and live three hundred years, and there are many other examples. Man, on the same principle, should live two hundred and fifty years, but he comes to a premature end owing to the conditions of life. Two and a-half centuries would be rather a long extension of the allotted span, but there is no reason why human life should not be materially prolonged by scientific discoveries. Horses, which by the same rule ought to live thirty years are, he added in reply to an objection, in the same condition as man.



### How to Fight Microbes.

In the course of a speech at a dinner of the Birmingham Athletic Club, Sir James Sawyer said that wherever we went we found mysterious microscopic organisms, one carrying this disease, one carrying that. Those microscopic agencies were taken in with the air we breathed, with the clothes we put on, with the liquor we drank, and with the food we consumed. While science pursued—let it be hoped with complete success—the search for the antidote to every one of these little enemies, he would ask them as men of common sense, what had preserved us all this time? Must there not have been some mysterious powers of resistance in the human body which had enabled us, in darkness and ignorance, perhaps, to kill these cells, these microbes, these germs? There must be something in the body which could destroy all these. Providence had not placed us in the midst of all these enemies without giving us within ourselves a sufficient guard against them. That guardianship, that safety, was to be found in the perfection of our health, in the full discharge of our functions, in a bright and active brain, in a chest well expanded, breathing to its remotest recesses the air, letting no part be dormant, no part become stagnant, but with a deep inspiration sweeping away every germ of disease. That Providence had given us a heart which, if kept well and healthy, would send the blood tingling into every extremity sufficient in quality and quantity to enable every part to discharge its functions, had given us various organs which could deal with poisons, break up these mischievous cells, destroy them, and throw them harmlessly away. And these powers of resistance which Providence had given athletes would keep going.

\* \* \* \*

### A New Serum Cure for Drunkenness.

DOCTORS THEBAULT and SAPPELIER have been continuing their experiments with the serum taken from alcoholised horses, which is supposed to cure dipsomaniacs of the craving for strong drink. Aided by the apothecary, M. Broca, they have been injecting habitual drunkards with the stuff, and the result is, says the Paris correspondent of the *Daily Telegraph*:—That the toppers, who formerly could not see a public-house or wine-shop without desiring to enter therein, now pass such places without a pang, and have become models of sobriety, if not patterns of all the virtues. They loathe absinthe, which was formerly to them the only thing worth living for, and they hold in equal detestation cognac, rum, and the deleterious sort of wine known as petit bleu. A butcher, who was for years a confirmed absinthe drinker, and absorbed ten glasses of the stuff daily, after the first injection of the serum found that his favourite drink was detestable. Rather than cut his connection with his house of call for stimulants, he still went there twice a day for absinthe, but two additional inoculations of the serum caused him to become a teetotaler. The drink cure is said to possess a vivifying quality, with Professor Mechnikoff, of the Pasteur Institute, calls stimulithe. In order to obtain this mysterious stuff, which is to regenerate the hard-drinking portion of mankind, Messrs. Thebault, Sappelier, and Broca take a thoroughly strong and healthy horse, and make that animal a confirmed drunkard. Blood is then taken from the jugular vein of the alcoholised quadruped; it becomes coagulated in sterilised phials; the serum detaches itself, and is put into tubes. Lovers of dumb animals will be glad to hear, on the authority of the experimentalists, that the horses stand the experiments without injury to their equine constitutions. The method was first tried with hens, guinea pigs, and rabbits, which had been previously imbued with an inordinate craving for alcohol. Then the experimentalists began on men who were notorious for their addiction to pernicious liquor, and success ensued. The method is still being tested by a committee of the Academy of Medicine, and the discoverers are confident of the result.

### Experiments with Milk Preservatives.

IN some recent experiments with animals on the physiological action of minute quantities of boric acid and of formalin, as employed as food preservatives, H. E. Annett has thrown considerable light on what is a most important, but, so far, undetermined question. Five kittens were fed on milk containing 80 grains of boric acid per gallon. In four weeks all were dead. Five kittens were fed with milk containing 40 grains per gallon; two died in the third week, and the rest in the fourth. Five control kittens received pure milk, none died. The diminution in weight in the animals receiving the boric acid milk was very marked and brought into significant relief by comparison with the increase in weight in those fed on the normal fluid. It was seen, in a day or two, that the kittens treated with the boric milk were losing appetite. Diarrhoea, inactivity and depression followed, then rapid emaciation and death. With milk containing formalin similar results were obtained. Of five kittens treated with milk containing 1 part of formaldehyde in 50,000 of milk, three died in five weeks; the average increase in weight was 177.6 Gm., compared with 251.1 Gm. of four control kittens treated with normal milk; with milk containing 1.25,000 of formaldehyde, another series showed an average gain of 196.6 Gm., as against 325.7 Gm. gain by kittens fed on normal milk. Of a third lot treated with milk containing 1 part of formaldehyde in 12,500 of milk, two died in the fourth week; the average gain in weight was only 96.4 Gms. against 312.5 Gms. with the "controls" fed on normal milk. The younger the animals were, the more susceptible they appeared to the influence of the formalin. The experiments are only preliminary, but the fact cannot be denied that they have a very distinct bearing on a matter which is, literally, of vital importance.—*Lancet*.

\* \* \* \*

### The Liebig Company Protect their Extract.

"LEMCO" is the combination of letters which the Liebig's Extract of Meat Company has decided to use in future as a distinguishing mark of the company's extract in addition to the well-known blue signature J. V. Liebig. On and after January 1, 1900, all the company's jars will have an additional label bearing the initials of the company, "Lemco," by which name the company's extract will soon be generally known. It is well known that the Liebig Company have taken steps to better protect the sale of their extract as several of the alleged Liebig's extracts now offered to the public are sorry rubbish. Of the many extracts of meat manufactured there has never been, nor is there up to the present, one equal in quality, bouquet, and consistency of strength to that of the Liebig Company. In their efforts to prevent substitution the company have our best wishes. We have several times analysed the extracts on the market, and the Liebig Company's Extract is always worth a shilling or two per lb. more than any other.

\* \* \* \*

### The Royal Dublin Society—A Study in How Not to Do It.

SWIFT'S biting lines on Irishmen are apparently as true to-day as they were when he flung them in disgust at the race for which he did so much. Noticing a new powder magazine being built he said:—

"Another proof of Irish wit and Irish sense is seen,  
"When nothing's left that's worth defence  
"They build a magazine."

Ireland possesses a Royal Dublin Society which recently gave an exhibition of potatoes at Ballsbridge showing the various stages of root-rot, and Professor Johnson who spent last August in an exhaustive study of the ravages of this disease in Galway recently lectured before the Royal Dublin Society on this subject. Such a lecture



affecting well nigh every Irish agriculturist would, one would naturally suppose, be reported verbatim in the farmer's papers in order to be of any use for those it was really designed to benefit. It seems incredible, but it is really the case that beyond a few paragraphs by ignorant reporters who could not tell an "Early Ashleaf" from a "Magnum bonum," which appeared in the daily papers, the valuable lecture had no publicity. A horticultural contemporary enquired why notice of such meetings was not sent to the papers most concerned, but was informed

by some flippant fool in office that only the daily papers were notified of such meetings. In such a matter the only papers which can give the space, which understand the subject, and which reach the people, such information would be of value to, are the agricultural papers. A more perfect example of stupidity than that of the Dublin Royal Society it would be hard to find. One wonders what its officials do to justify their existence and the money expended.

## Notes for Dairymen.

### A Proposed Solution of the Milk Problem in large Cities—Solid Milk.

Two gentlemen—one in New York and the other in Boston—offer to the dairyman a method of milk dealing which is ingenious to say the least of it. The New Yorker, a Mr. B. F. McIntyre has devised a process by which 80 per cent. of the water is abstracted from milk by freezing it when in moderate agitation. Dr. Henry O. Marcy, of Boston, U.S.A., thus describes it:—

The water, as ice, is taken from the milk in comparatively stainless crystals, almost without loss of solid product. It has been shown that the expense of condensation is very much less than by evaporation *in vacuo*, and that the resultant product is of much greater value. A considerable series of experiments was undertaken during the summer, under the supervision of Professor W. T. Sedgewick, of the Institute of Technology, in order to ascertain the effect of refrigeration on the bacteria ever present in milk.

It was found, although the resultant was not perfectly sterile, that the bacteria were in large measure destroyed, and that the concentrate put up in glass jars, such as are commonly used in the distribution of milk, has a keeping quality of weeks rather than days. Encouraged by these results, Mr. Edward Burnett, of Boston, well known for his practical studies in furnishing a better milk-supply, has established a plant of sufficient capacity to demonstrate the commercial advantages of the process. It is believed that the process offers a practical solution of the difficult and expensive problem of milk distribution in cities; that the family supply will be furnished in a concentrate one-fifth the bulk of ordinary milk, and that distribution of it from house to house made once a week will be ample for practical purposes. By this process the fat globules are uninjured, and as a result the cream is unimpaired for table use. Pathologic bacteria are destroyed by the process, and the milk-supply will be rendered safe for use.

The economic advantages are obvious. In the first place the milk will be furnished the consumer at a material reduction in cost, and the waste in its daily use will be very greatly lessened. A far more satisfactory product in every respect will be furnished, and with a little care the pantry will be in constant supply. Mr. McIntyre is by no means satisfied with furnishing a product which contains even so little as seven per cent. of water, and he looks forward to the practical demonstration of furnishing milk in a solid form, with keeping qualities equal to that of butter or cheese. I have in my possession a sample of solid milk prepared by him, by this process, now some months old. I make this brief report of progress, since the milk-supply of the country is of the first importance to every individual, and we indulge the hope that the work thus begun will prove so satisfactory that it will revolutionize the distribution of the milk-supply of the world. Such in brief is the proposal, and if really

practicable, it would undoubtedly, wherever adopted, be a sweeping revelation. London's milk bill is reckoned at least £50,000 per day and Dr. Mansfield Robinson in the able hand-book on the Food and Drugs Acts, compiled with the assistance of Mr. Cecil H. Cribb, B.Sc., F.I.C., public analyst to the Strand district (Published by F. J. Rebman, 11, Adam Street, Strand) says: "According to the Local Government Board's Report in 1892, the percentage of milk samples returned as adulterated was 13.3. There is reason to believe that this is much under mark, but taking it as it stands after allowing 3.3 per cent. for other methods of falsification there remains 10 per cent. of the milk adulterated with water." The total consumption of milk in England and Wales amounts to 1,740,000,000 quarts costing £29,000,000 according to the Journal of the Statistical Society, April, 1892, and Dr. Mansfield Robinson computes that the inhabitants of England and Wales buy annually under the name of milk, 20,880,000 quarts of water, for which they pay £348,000. If these figures be correct, it is very plain that the adoption of the system of these ingenious New York and Boston gentlemen would mean a big reduction in the profits of the milk vendors in large cities. Of course it is manifestly exaggerating to assume that *all* milk vendors practice the ten per cent. water dodge. Firms such as the Aylesbury Dairy Co., and many others we could name, are not only beyond any such reproach, but have done enormous service in securing pure healthful milk and in raising the fat percentage—but leaving this aspect of the question aside for the present there is a lot to be said for the scheme from the public point of view. There is first the hygienic aspect there, the most out and out advocates of the existing system cannot deny the many terrible outbreaks of disease caused by milk. Enteric fever has claimed its victims by the score at Glasgow, Paisley, Hornsey, and other places by infected milk, and as regards the spreading of disease it is undeniable that if Mr. Burnett's process destroys pathologic bacteria, it would benefit the public. Its adoption, however, would inevitably lead to the establishment of central freezing stations at which we suppose the milk would be paid for according to its fat percentage, samples of the deliveries being retained for analysis by the freezing company's chemists. But who is to protect the public against fraud by the freezing companies? The public analysts have enough trouble now over the variations of fat in milk, but if frozen slabs of milk became the rule, who is to fix a standard? Mr. Walter Long and his friends refused to ask the House of Commons to do so, hence some of the chaos of the new act. It is by no means more improbable that refrigerated milk should come into general use than it was that refrigerated beef, mutton, etc., should be sold everywhere, and some of the financial rings may see money in it. All the same we expect to see the existing system cumbrous and faulty as it may be, live a long time yet, and we confess to a liking for the often musical "Milk-O"—about the only musical cry left in our streets.



### What the Prohibition of the use of Preservatives and Colouring matters would cost English Dairy Farmers.

MR. RIDER HAGGARD, in his interesting record of a farmer's year, complains about preservatives, and the majority of the members of the Central Chamber of Agriculture recently passed a resolution:—"That this meeting is opposed to the employment of preservatives and colouring matter in articles of dairy produce, whether British or imported, and that as they are believed to be deleterious to invalids and children their use should be prohibited." Writing in the *Field*, F. J. L. says:—"It is impossible to believe that this resolution expresses the feeling of the agricultural community. Moreover, it is based on an assumption which is not correct. Colouring matter in the form of annatto has been used in butter and cheese from time immemorial, yet there is not a single instance on record of such butter or cheese having been injurious because of such addition.

Evidently we must seek for some explanation of this resolution other than the one given by those who adopted it. Knowing what has taken place in the near past, we have not much difficulty in arriving at the true object. The attempt to abolish the use of preservatives has been fostered by the erroneous belief that it would strike a blow at the importation into this country of milk, cream, and butter, and so raise the value of these products of the home industry. It has been supported openly by the Danes because they hope by this means to check the importation of butter from our colonies, and so raise the price of their own. And the attempt to condemn colouring matter as injurious to health was a last effort of the Chamber to put a stop to the colouring of margarine.

The Chamber had striven to induce Mr. Walter Long to do this in the Sale of Food and Drugs Act. But neither the Minister of Agriculture nor Parliament would assent to adopt this resolution of the Chamber. Galled by defeat, the Chamber now endeavours to bring about its object indirectly, and supports its attempt by asserting that colouring matter is believed to be deleterious. The committee of scientific men inquiring into this question are not likely to pay any attention to beliefs. They will demand facts, and it will be interesting to see whether these are forthcoming.

What object could the producers have in requesting the abolition of preservatives and colouring matters? Suppose that these were injurious, the consumer and not the producer would suffer. Moreover, the producers can abstain from using either preservatives or colouring matter. No one forces them to add either. If they believe in their own assertion that these are injurious to health, what right have they to continue using them?

The fact is, that in making this final attempt to prohibit the colouring of margarine by giving up the right to use preservatives or colouring matter in dairy produce, farmers fail to realise to what extent they would suffer. Let us assume these substances were prohibited, and endeavour to determine how far it would affect farmers, and dairy farmers more particularly.

First as regards milk. The milk supply of London is drawn from farms, some of which are at least 150 miles distant, and the larger portion of the supply will come from farms situate over fifty miles from the metropolis. By very careful cooling of the milk immediately it is drawn from the cow, that which comes from farms within fifty miles of London can, even during hot weather, be delivered and distributed to the consumer without the use of any preservative. But this is not the case with milk coming from a long distance. Such milk can be delivered at the London Termini in fairly good condition, and some large dealers, to make sure of cleanliness in milking and proper cooling of the milk, insist upon its being so sent without any preservative. On its arrival they add such preservative as may then be necessary to

secure its distribution to the consumers. Other dealers prefer that the farmers should add the preservative, so as to check from the very outset the growth of the bacteria which cause the souring of milk. Deprive these purchasers of the right of using preservatives, and at once the sale of milk from long distances will cease.

There is no prospect of that sale being recovered, except at very considerable expense, for the farmers would be called upon to refrigerate the milk to a temperature which could only be obtained by artificial means, and the railway companies would have to provide special cold chambers for the conveyance of such milk.

The loss to the farming community would be great. True, those favourably situated would probably obtain a much higher price for their milk. But this system of robbing Peter to pay Paul would far from compensate for the injury which would accrue to agriculture generally. There would be subsequent results of far reaching importance. The rise in the price of milk which must inevitably follow such a step would render this almost essential article of food more and more of a luxury, especially for the poor, and they would not be slow to call out against this hardship.

A diminished supply and increased price of milk would be followed by an enormous increase in the consumption of condensed milk—which is mainly of foreign origin—and subsequently it would open up the London market to a foreign milk supply.

Recently a process has been patented and thoroughly tested—and preparation are now being made to enable this process to be utilised on a large scale—by which milk from abroad, absolutely free from preservatives, can be placed on the London market in a cooler and sweeter condition than milk which arrives by train, even from only twenty miles distance. Should the price of milk remain as at present it is a question whether this foreign milk supply will make much headway. But should the use of preservatives be abolished, and the price of milk rise, as it must of necessity, the success of this process is assured, and the import of foreign milk will rise by leaps and bounds, as did the imports of butter in years past.

We may next consider the effect of prohibiting preservatives in cream. Probably very few farmers have any idea of the extent of the trade in potted cream. In London, as also probably in other centres of population, this trade has become of very large dimensions. Thus one of the "stores," which are now somewhat numerous in London, sells in pots of from 4oz. to 8oz. no less than 1700 gallons of cream in a year. This industry depends entirely upon preservatives, and could not be carried on without their use. What quantity of milk is utilised in this industry it is difficult to estimate. As each gallon of cream requires for its production at least twelve gallons of milk, the cream sold in this one store represents no less than 20,000 gallons of milk per annum. Hence it is evident that hundreds of thousands of gallons of milk, now used in this industry alone, would be thrown on the farmers' hands by the prohibition of preservatives.

The effect of the prohibition of colouring matter in butter would also be far reaching. During the winter months, when the price of butter is higher than at any other period of the year, cattle are being stall fed, and it is not possible to obtain naturally that primrose colour which consumers demand. The white or very pale coloured butter then produced would certainly fetch a price far below that which a well coloured butter would obtain. Consequently butter from the Australian colonies, which would be made from summer milk, would fetch top prices. Danish butter could not compete with it, and the English market would be absolutely in its power. Prices would rise considerably. Margarine, which, without the use of colouring matter, can be made of as good if not of a better colour than butter from stall fed cattle, would be used by those who could not afford the better butter. It would have the double advantage of being much cheaper and of



keeping better than the pale uncoloured butter, which alone could compete with it. Farmers think that by prohibiting the colouring of margarine its sale would be destroyed. If want of colour would have such an effect upon an article which can be sold with profit at 6d. a lb., how much more certainly would it destroy the sale of this white winter butter which, even at 1s. a lb., leaves little, if any, profit to the producer? It is not too much to say that if the use of colouring matter in butter is prohibited the butter industry of this country is doomed.

The cheese industry would be affected, but not to a large extent. Most of the cheese made in England is used for home consumption, and is not coloured. Some few varieties which are coloured would probably die out, while our exports of cheese, much of which is coloured, would be lost, and the £40,000 which these represent would pass into the hands of our foreign competitors; but these results are quite insignificant as compared with those previously mentioned.

Such are the practical results which would follow the prohibition of preservatives and colouring matters in dairy

produce, results which farmers have evidently failed so to realise.

F. J. L. who we imagine to be F. J. Lloyd, F.I.C., the Consulting Analyst to the Dairymen's Association crowds a great deal of shrewd common sense into a small compass in the above letter. The English agriculturist is twenty years too late in his "resoluting." Had he begun when the late Mr. G. Mander Allender, of the Aylesbury Dairy Company, first struck his note of warning, Denmark, Brittany, Germany and our Colonies would never have got here. They have come; public taste has altered, salty bacon and butter are things of the past, and it is as senseless to seek to revert to the old order as it is to ask for the restoration of the Heptarchy. Were Cold Storage genera the movement against preservatives might have some chance of benefitting English agriculture, but the sufferers then would not be Denmark, Germany, France, Holland, Italy, and Sweden—they would be our Colonies who have just given us a glowing show of patriotism. The Central Chamber of Agriculture would do better to resolute less and study facts more.

## The Government Food Preservatives Inquiry.

(Concluded from page 632.)

### THE MANUFACTURE OF JAM,

and there was no doubt that this was chiefly on account of its property of arresting the fermentation of unsound fruit. As to the quantities usually added to food, he had found boric acid only in milk, cream, and butter—in butter to the extent of 8 up to 50 grains per lb., and in milk and cream from 6 to 20 grains per pint. It was also very largely used for preserving bacon, and a large provision dealer had assured him that American bacon was very rarely free from it. Boric acid was also used by butchers, for he had received from the Chief Constable of Anglesey a packet of a preservative he had found being largely used by a butcher for sprinkling his meat in the hot weather. The packet consisted of boric acid, described as "to preserve fresh meat, sausages, fish, milk, butter, and various articles of food sound and sweet in the hottest weather." Salicylic acid he had found in jam, and also in British wine. In jam it had been present to the extent of from two to four grains per lb. If it were added to the fruit before boiling a good quantity would probably be lost. Formalin he had found only in milk and cream, but as there was no reliable method of estimating it in food he had not attempted to do so. As to colouring matter in food, the most important, he thought, was the use of copper for giving a green colour to tinned peas and beans. Most of these came from abroad, chiefly from France and Italy, but they were now being coloured by several English firms. The quantity of copper present was usually from 0·007 per cent. to 0·01 per cent., or about half to three-quarters of metallic copper per pound. There appeared to be a very strong effort being made to legalise the sale of these articles, for most of the cases taken into court in his district had been defended by the

### WHOLESALE DEALERS,

often at a considerable expense; but he had obtained convictions in almost all the cases he had had. Almost all the highest medical opinion in the country appeared to consider the use of copper injurious to health. In Dr. Taylor's *Medical Jurisprudence* it was pointed out that, though the quantity of copper contained in such articles might not be sufficient to cause fatal effects, serious symptoms of gastric irritation were sometimes produced, and in young persons they might assume an alarming character. Dr. Luff also condemned it, and Dr. Lauder Brunton appeared to consider that chronic copper poisoning might be produced. He had pointed out that some doubt had been thrown on the possibility of producing

chronic poisoning by the internal administration of copper in small doses, as in some experiments it was given to animals for a length of time without injury. More recent experiments, however, showed that at least in ruminants chronic poisoning might be produced. These articles were especially injurious to weak persons and children. The reply of the medical officer of health in one of witness's districts to a question in a case of

### COPPER PEAS

before the magistrates had, he thought, a very strong bearing on this point. The medical officer was asked by the chairman (a big, strong man) whether the peas would do him (the chairman) any harm, and his reply was: "No; very probably they would not do you any harm, but (turning to another of the magistrates, who was a much older man, and who had recently recovered from a severe illness) they might kill Mr. B." As to the use of other colouring matter, with the exception, perhaps, of Prussian blue for sweets, he had not found any that he should consider

### INJURIOUS TO HEALTH.

Margarine, of course, was always coloured, and butter occasionally, but he had only found annatto in the samples he had examined, and he did not think that injurious colours were used for the purpose. As to the colouring of margarine, he believed if it were made illegal the sale of this cheap and useful food would be destroyed, for in his opinion margarine was much more wholesome than a large quantity of the old and rancid butter that was used for food. He had frequently had samples of slightly rancid butter brought to him for analysis, as the purchaser thought from the taste and smell that it must be margarine.

### MUSTARD WAS FREQUENTLY COLOURED

with turmeric, but except that it was perhaps used to disguise the admixture of a large amount of flour he did not think there was much objection to it. The dyeing of sugar was, of course, a fraud, and was decidedly an adulteration, but he had not had many samples of sugar to examine, and only one that was dyed. The use of Prussian blue for colouring sweets was very objectionable, if not dangerous, for it seemed probable that the insoluble and non-poisonous cyanides of the colouring matter might possibly, under certain conditions of digestive organs, be converted into some of the poisonous cyanides. Spirits, especially whisky, were very frequently coloured with caramel.



Dr. M. K. Robinson, of Dover, medical officer of health for East Kent, said in 1895 he had investigated a sudden and serious outbreak of illness in a religious house containing five sisters, a cook, and a housemaid. Although no fatal results accrued, the symptoms were severe, involving protracted convalescence. Suspicion attached to the milk, of which five persons who were taken ill had partaken. It appeared that the cook had added "glacialine" to the milk, the basis of that compound being boracic

acid. For the same purpose a preservative had been added to the milk both before and after its delivery at the house. Blanc-mange made of the milk was given to nine fowls, and those which devoured most of it—five in all—all died. The addition of boracic acid to milk should be forbidden, as it was a poison. If it were allowed to be used a delation as to its presence should certainly be obligatory.

The Committee adjourned.

## Gold Storage.

**Its Importance to Butchers, Fish and Game Dealers, Butter Merchants, Provision Dealers, Dairy-men, Fruiterers, Greengrocers, and all engaged in the sale of Foodstuffs.**

RECENT prosecutions under the Food and Drugs Act at Birmingham, London, Liverpool, Pontypridd, Neath, and other places, where grocers and milk dealers were convicted and fined for selling butter and milk in which boric acid, formalin, etc., were used as preservatives, raise a question of the very gravest importance to all vendors of food stuffs. In hot weather a vast amount of fresh meat, bacon, butter, milk, etc., is kept from decomposition by the use of preservatives, but there is a strong objection amongst medical men to this "indiscriminate drugging of the consumer," for such they term the use of borax, boric acid, salicylic acid, formalin, sodium fluoride, and the many fancy-named preparations added to food to preserve it from decomposition.

### DRUGGING OF FOOD AND MEDICAL OBJECTIONS.

"We object to the addition of preservatives in foods not merely on account of their possible or actual harmfulness," says the *Medical World*, "but because we hold it as an offence against the citizen that he should be drugged without his knowledge by any ignorant person who chooses to dose milk, butter, bacon, meat, fish, etc., with boric acid, salicylic, sodium fluoride, etc. There is no honest excuse for such tampering with foods. The drugs are intended to deceive the nose, which is Nature's vedette, warning the consumer against that which is tainted and may be dangerous to health. To the argument that without the use of preservatives tons of valuable food would be wasted, we have to answer that there is no reason whatever to waste food. Nature has shown us that in the Arctic regions it is easy to preserve food indefinitely by a process which adds no drugs and effects no change. We mean by intense cold. So blind, however, are we to Nature's teaching that, although her book has lain open for mankind's perusal since the beginning of the world, we still in times of glut consign tons of fish to the field as manure, and destroy tons of meat, fruit, milk, etc.

"It is true that we are making considerable progress towards stopping this enormous waste of wholesome food, and that cold storage is becoming more general, but this important process is yet in its infancy, and every town of any importance in the kingdom needs a proper cold storage apparatus and premises wherein butchers, milk vendors, fruiterers, fishmongers, etc., could deposit their supplies at reasonable rates, and use as required. The saving in food would be enormous, and the baneful practice of surreptitious drugging of foods be without even the one excuse it now possesses."

### MAGISTRATES MAY INFLICT IMPRISONMENT WITH HARD LABOUR.

The subject of preservatives in food has so forced itself upon public notice that it is now engaging the attention of a special committee of scientists appointed by the Government, but whether this committee reports against the use of any drugs in food or not, the position

of the butcher, dairyman, provision dealer, or other food vendor is unsatisfactory. At present, as at Birmingham and elsewhere, he is liable to be summoned, fined, and incur odium, loss of reputation and business—in fact, to suffer what may be ruin—should he sell food to which preservative drugs have been added to keep it in condition. Nay, a magistrate may even go further and, under Section 3 of the Food and Drugs Act, 1875, inflict SIX MONTHS' IMPRISONMENT WITH HARD LABOUR on the person selling food dosed with such drugs, because the summons is issued under a clause in that Act which forbids any person adding to food *any substance injurious to health*, and the trader's liberty itself depends, therefore, on the magistrate's whim or prejudice. Traders thus stand in a position of real danger, alike to pocket, reputation, livelihood, and liberty, as the recent prosecutions at Birmingham, London, and other places conclusively show. Such prosecutions may at once become universal throughout the United Kingdom, as their initiation mainly depends upon the medical officers of health, and these gentlemen, at their annual congress, condemned unanimously the use of preservatives in food stuffs as injurious to health, and resolved to take steps to suppress the practice.

### THE MEDICAL OFFICERS OF HEALTH CONDEMN THE USE OF PRESERVATIVE DRUGS IN FOOD.

At a meeting of the Incorporated Society of Medical Officers of Health, held at the offices of the Board of Works for the St. Giles District, on April 14th, 1899, a discussion took place on the subject of preservatives and antiseptics in food, in which a number of medical officers of health and public analysts took part, and ultimately the following resolutions were adopted:

"(1) That the Incorporated Society of Medical Officers of Health strongly disapproves of the practice of adding preservative chemicals to milk and other foods.

"(2) That if preservative chemicals are added to any food a full disclosure as to the nature and amount thereof should be made to the purchaser."

It is evident, therefore, that if a trader in butter, milk, meat, fruit, and other perishable foods wishes to avoid serious damage to his business he must take steps to free himself from any suspicion of using borax, boric acid, formalin, sodium fluoride, and all the fancy named preservatives advertised in trade journals, because every one of them has come under the ban of the physician, the medical officer of health, or the law.

### THE DANGERS OF PRESERVATIVES IN FOOD.

Dr. Alfred Hill, medical officer of health for the important city of Birmingham, only voiced the settled antipathy of medical men to all preservatives when he recently declared that one great source of danger in the use of boric acid is the fact that it is impossible to control the quantity of the preservative added by one person alone, while there is no guarantee that successive persons may not each make an addition of it to one and the same article of food. A striking case illustrating this repeated addition of a boric preservative is reported by Dr. M. K. Robinson,



medical officer of health of East Kent Combined Sanitary District. Dr. Robinson had to investigate a sudden serious outbreak of illness. Five out of the seven inmates of the house were attacked within a short period of each other. Suspicion attached to the milk, which had been taken alone, in tea, and in the form of blanc-mange. Both to the morning and afternoon supply the cook had added a preservative, which was found to contain boric acid. A sample as delivered by the dairyman was analysed, and found to contain a similar substance. Thus, for the same purpose, a preservative had been added twice, the result being that an overdose had been administered. To nine fowls was given the residual portion of the blanc-mange. Five of them, which consumed the larger quantity, all

died, while the remaining four suffered badly, but recovered. Dr. Robinson urges that the addition of the drug should be regarded as an injurious adulteration. If such results, he says, can be produced in the case of adults, it is not unreasonable to presume that infants cannot take with impunity long continued doses in their staple food. The opinion is general among physiologists that all preservatives, when effectual, either from their nature or quantity, in so injuring the micro-organisms which bring about fermentation or putrefaction in food as to inhibit their action, also injure those persons who consume such food.

(To be continued next week.)

## Legal.

### Unsound Condensed Milk.

#### NARROW ESCAPE OF IMPRISONMENT: WARNING TO PASTRY-COOKS.

WHAT to do with unsound tinned milk is a problem which just now is seriously exercising the minds of many dealers. Our own opinion is that it would pay the large dealers to mutually agree upon a regular price for Condensed Milk, skimmed and unskimmed, and to destroy all blown tins, selling none to the shady characters who ostensibly buy "blown tins" for pig feeding, because the pig feeding pretence deceives no one who is in the know, it being perfectly well understood that the ultimate destination is the shops of the less scrupulous kinds of pastry-cooks.

The recent seizures injure the condensed milk trade, and throw grave suspicion on the pastrycook's business—a suspicion which attaches itself to those who use only the wholesomest materials, as well as to the wretched public poisoners who care not what filth they make their confectionery or pastry from.

It is very easy to throw suspicion on any article of food, and the condensed milk trade is one which should not give its enemies any opportunities. It is obvious the manufacturers and large dealers do give such opportunities now, otherwise persons like Mr. James Dean would not be in a position to use unsound tinned milk of the character revealed in the case tried at Worship Street recently.

This manufacturer of toothsome delicacies for children was summoned by Mr. John Foot, chief sanitary inspector of the Bethnal Green Vestry, for having in his possession, and deposited for the purpose of sale, and of preparation for sale, and intended for the food of man, a quantity of condensed milk (about 43 tins), which was unsound, unwholesome, and unfit for the food of man, contrary to the Public Health (London) Act, 1891. Mr. Lewis A. T. Margetts prosecuted on behalf of the Vestry. Dr. Bate, medical officer of Health for Bethnal Green, was called on behalf of the Vestry. He said that any person partaking of anything in the making of which the milk had been employed would probably have diarrhoea and probably ptomaine poisoning. Inspector Richards was next called in support of the prosecution. He said that on November 1st, acting on the instructions given him by the chief inspector, he visited in company with Dr. Bate and Inspector Mills, the shop of James Dean, 192, Brick Lane, where the business of a pastrycook and confectioner is carried on. He found in the cellar amongst boxes of butter and raisins, a box containing 43 tins of condensed milk; one tin was open and half full, and appeared to have been recently used. All the tins were blown. On opening some of the tins the contents squirted out and smelt offensively. He seized the tins, took them to the Vestry Hall, and on the following morning took them to Worship Street Police Court, where the magistrate (Mr. Haden Corser) saw them, had some of the tins opened, and made an order of condemnation, which the Inspector now produced. Inspector Mills corroborated and stated he gave Dean notice of the application to the magistrate for an order to destroy the tins. For the defendant, his foreman and sugar boiler were called. One of them admitted he had recently used some of the milk, and had the remainder not been seized, it would probably have been used. He also stated that the milk was blown, and could not be expected to be good at the price. Chief Inspector Foot proved that on November 30th

last at the Thames Police Court the defendant was fined by Mr. Dickinson £20, and £10 10s. costs, in respect of a case of milk which had been seized on the same day on the defendant's premises at Chrisp Street, Poplar. He also stated that the officers of the Bethnal Green Vestry and the Poplar Board of Works had, for several weeks past, been engaged in making seizures of unsound condensed milk which had been sold to a number of pastry-cooks and confectioners in the two districts, for the purpose of being used in the manufacture of caramels and caramel toffee. These seizures had resulted in prosecutions being taken, and fines ranging from £10 to £40, and £10 10s. costs, had been inflicted by the magistrate at the Thames Police Court. Mr. Mead, the magistrate, said as far as he was concerned, he would do his best to put down this trading in unsound food, and he did not think he would be doing his duty to the public if he gave the defendant the option of a fine. He therefore, sentenced him to one month's imprisonment. It was subsequently brought to the notice of the learned magistrate that, as the two seizures were made on the same day, and that these proceedings were pending at the time the defendant was fined at the Thames Police Court, he had not had the warning of a previous conviction. The magistrate thereupon gave the defendant the option of paying a penalty of £25, or one month's imprisonment.

The only regret respectable traders in pastry and confectionery will feel on reading this case is that Mr. Mead did not carry out his original intention and give this user of putrid food imprisonment without option of fine. But there is too much reason to believe that many large traders encourage this method of getting rid of their unsound tins, and lest a merited example be made of some of them, we think the trade would be wise in promptly making arrangements to end this scandalous state of things.

We do not object to the stuff for pig feeding, because somehow pigs, like poultry, seem capable of turning almost any revolting edible substances into food, but if the makers and dealers cannot ensure the unsound tins being used at a pig farm, it is both wise and necessary that the stuff should go into the destructor. If not, some day the Deans will not stand alone in the dock.

MILK PROSECUTIONS.—At Southampton, Emaline Phipps, a milk dealer, of Netley, for whom Mr. Hiscock, on behalf of Mr. Lamport, appeared was summoned by William Edward Robinson, inspector under the Food and Drugs Act, for selling milk not of the nature, substance, and quality demanded. Two samples were obtained, one from a vehicle and the other from defendant's shop at Netley, and on being analysed they were found to contain 5.8 and 9.6 per cent. of added water. For the defendant a technical plea of guilty being entered, it was urged in mitigation that the defendant had been in business 20 years and this was the first case against her. She had been supplied with milk by a farmer, but not under a warranty, which she could not obtain. Some days subsequently defendant sent her son, accompanied by Mr. Brierley, the Southampton borough analyst, to the farm where the milk was being obtained, and while the milk was being transferred from the farmer's to the defendant's churns samples were taken, and after being analysed were found to contain added water. Suspecting the farmer, Mrs. Phipps had also asked the Inspector to take samples from his churns. The Bench ordered defendant to pay a fine of £1 and costs in respect to each information, £3 15s. 4d. in all.



At Shrewsbury, Sarah Ray, milk seller, Upper Greenfields was summoned for refusing to supply half-a-pint of milk when demanded by the Inspector under the Food and Drugs Act; and George Walton, assistant to Mrs Ray, was charged with aiding and abetting in the commission of the offence. Mr C. Payne appeared for the defence. Inspector Croxton deposed that on the morning of the 26th November he saw Mrs Ray's milk cart in North Street, Castle Fields, and in another part of the street he saw Walton delivering new milk. Witness sent a boy for a pint, and although the money was tendered Walton refused to supply it. Witness himself then asked to be supplied, whereupon Walton said he had none. Witness however looked into the can, where he saw upwards of half-a-pint, and told defendant that there was as much as he required. Mrs Ray then said it was wanted for a customer, and on witness telling her that he wanted it for analysis, Walton said "Before you shall have any of this milk I'll throw it into the road." Defendant promptly took hold of the milk can, but instead of throwing it into the road, he whipped the horse and drove off. Other witnesses were called, and the two defendants then gave evidence. Mrs Ray said that the Inspector asked for a pint of milk, but they had scarcely half that quantity in the can, having run short that morning. Croxton then said that he would have half a pint, whereupon Walton said that before he should have what was in the can for half a pint he would throw it into the street. Walton said that the Inspector first demanded a pint, but never tendered anything in payment. In cross-examination witness said that he sent word to one of the customers that she was not to part with her milk if anyone called for it. Defendants were each fined £1 including costs.—Harry Owen, Prospect Cottage, Castle Fields, was charged with selling adulterated milk on the 26th November. Inspector Croxton deposed that he purchased the milk from defendant's cart in Queen Street, Castle Fields, and an analysis revealed the fact that it was adulterated with eight per cent. of added water. Defendant was fined £3 including costs.—William Henry Griffiths, Shoot Hill, Ford, was charged with a similar offence on the same date. Mr Smalls Shaw appeared for the defendant, who gave evidence to the effect that he bought the milk at the Queen Street Dairy, and sold it in precisely the same state. He added that he told his customers that he could not guarantee it. Inspector Croxton said that the milk was adulterated with 14 per cent. of added water. It was quite true that the defendant purchased three quarts from the dairy named, but unfortunately he did not get a written warranty. The Mayor said that there was no doubt defendant was guilty of the offence on the morning in question; otherwise it seemed his business was carried on in an honourable manner. The public must be protected, and defendant would be fined £2 including costs.—Walter Evans, Factory Bridge, was charged with selling adulterated milk on November 26th. Inspector Croxton said that he sent a boy to buy half-a-pint of milk from defendant's cart, which was in Queen Street. He afterwards sent it to be analysed, when it was found to be adulterated with 15 per cent. of water. Defendant was fined £3 including costs.—Robert Thomas, milk seller, Hencote Sty, was charged with refusing to supply Inspector Croxton with a pint of milk in New Park Road on November 27th. The Inspector said that when he asked for the milk defendant offered to supply him with some from a small can in the cart, but would not let him have it from a can he had been supplying customers from. Defendant, who denied that he refused to serve the inspector, and called him a liar, was fined £5 and costs.

**MILK WARRANTIES.**—At Brentford, on December 28th, Alfred Morgan, The Parade, Style Hall, Chiswick, was summoned for selling milk from which 13 per cent. of fat had been abstracted. Mr. Tyler gave formal evidence and said that Mr. Morgan also had a very good record. The defendant handed in a warranty which he had received with the milk. The Chairman remarked that this was not a proper warranty, and the Inspector said that it was a common practice with some firms to give printed warranties like this, which were absolutely useless, as it was impossible to tell to what milk they referred. The Chairman said this was the first offence, and the defendant would have to pay the costs.—Charles North, of Aston-le-Walls, North Hants, a farmer, was summoned by Inspector Tyler for giving a false warranty in respect to milk delivered by him to Charles Wheeler at Shepherd's Bush. Inspector Tyler said that Mr. Wheeler had previously been summoned to that Court for selling adulterated milk, but the case was dismissed on the production of a warranty from the present defendant. Charles Wheeler, giving evidence, produced the warranty and the contract. The analysis in the case that was dismissed showed that the milk had been adulterated with 16 per cent. of added water. No one could have interfered with the milk between the time of its delivery from the defendant and the sale to the Inspector. Joseph Cursell, a porter at Paddington, gave evidence to the effect that the churns delivered to the defendant were not touched whilst they were at the station. To the Bench: Very few churns were locked. Mr. Tyler said that the fact was the Railway Company would not allow churns to be locked unless an extra rate was paid. In answer to another question, the witness said that sometimes other things were carried in churns, and then they were charged the higher rate. Harry Harris, carman in the employ of Mr. Wheeler, gave evidence that he had not tampered with the churns, but took them straight from the railway station to Mr. Wheeler. Walter Hadland, employed by Mr. Wheeler to

deliver milk, said that the Inspector had taken the sample from him. He received the milk from Mr. Wheeler, and did not put any water in it. In defence it was pointed out that directly the cows were milked the milk was locked up until it was sent away by train, and that it must have been adulterated afterwards. The Chairman thought it was not sufficient for the defendant merely to prove that the milk had not been tampered with whilst it was in his possession, seeing that he was responsible for the milk until it was received by the consignee. Guilty knowledge in giving the warranty was not essential. In giving evidence for the defence Charles North deposed that he sent the milk to the station in the same condition as it was got from the cows. Evidence was also given by his assistants to the same effect. The defendant was fined 1s. and costs. Undoubtedly the defendant was responsible, said the Chairman, although it was very hard on him, as he was apparently a respectable farmer, and had had to come up from Hants to meet the case. Arthur Hutt and Ellen Hutt, dairy farmers, living at Talsworthy, Oxford, were summoned for giving a false warranty in respect of milk supplied to Chas. Perry, of Chiswick. Exactly the same question was involved in this case, and without hearing any evidence the Bench ordered the defendant to pay the costs only, the fine not being inflicted as only a small quantity of fat was deficient, which it was considered might have occurred naturally.

At Swansea on December 30th, David Webborn, farmer, of Oystermouth, was summoned for giving a falsely written warranty with milk supplied to D. H. Hinds, a milk vendor, of the Mumbles. Mr. Thompson prosecuted, and Mr. Leyson defended. Hinds stated that he had been summoned for selling adulterated milk, but on producing a warranty from defendant, from whom he had purchased the milk, the case was dismissed. Defendant now swore that the warranty was given Hinds through him calling at his place, and asking him if Sergeant Dagg made inquiries, to say that he had given the warranty with the milk. Later in the day Dagg called, and he told him what Hinds had asked him to state. Defendant's son deposed that the milk was delivered to Hinds in a pure state. The Bench dismissed the case.

**THE MILK SUPPLY OF STAFFORD.**—At Stafford, on December 28th, Albert J. Wright, milkseller, of Hopton, and James Ashey, his servant, were both summoned for selling milk which was adulterated with 11 per cent. of added water. Mr. E. W. H. Knight, inspector under the Food and Drugs Act, prosecuted. He said the facts of the case were that on November 26 (Sunday), his assistant, named Bennison, purchased a pennyworth of milk from Ashey. Subsequently Bennison saw the defendant Wright, and the latter said if the milk was wrong it was his servant's fault. Afterwards, however, Wright said the milk had been purchased from someone else. He (the inspector) had more difficulty with the milk supply of Stafford than other towns its size in his district. It did not compare favourably with the Potteries in the matter of pure milk. In answer to the Bench, Mr Knight said he did not wish to press the case against Ashey, as in his opinion, he was not the guilty party. Mr Wooldridge said the Bench could do nothing but convict, and as defendant had been twice previously convicted, they must mark their sense of the seriousness of the offence by imposing a fine of £4 and 15s. costs, or a month's imprisonment. The case against Ashey was dismissed.

**BUTTER PROSECUTIONS.**—At Portsmouth, John Edgar Rose of 289, Commercial Road, Landport, was summoned on Monday before Mr. T. Cousins and Commander W. L. Bamber, for selling adulterated butter. Mr. G. H. King prosecuted for the Urban Sanitary Authority. The butter was purchased at the Empire Stores, Commercial Road, by Mrs. Davey, the wife of a fireman, on behalf of Henry Charles Monckom, an inspector of nuisances. The Borough Analyst's report showed that it contained 52.65 per cent. of foreign fat. Defendant's explanation was that margarine was served by accident as the two were close together. Mr. Cousins said that excuse would not do. The paper wrapper bore the legend "Pure dairy butter, sweet as a daisy," illustrations of cows, milkmaids, and churns complete. Defendant admitted that that was so, and added that he "had had enough of it," and was going to sell his business. The Magistrates looked upon the case as nothing but dishonesty. They were determined to stamp out such illicit trading. Defendant would be fined £10 including costs. Defendant:—"I think its hard. I'm only a small trader."

At Marylebone Police Court, on December 22nd, Robert Barnes, of 21, North Wharf Road, Paddington, W., was summoned for selling butter containing 95 per cent. of foreign fats. Mrs. Barnes, who answered to the summons, admitted the sale and did not dispute the analysis. Mr Dennis informed his worship that in April, 1897, the defendant was fined 40s., with 12s. 6d. costs, for selling adulterated milk, and in March this year he was fined £3, with 12s. 6d. costs, for selling butter adulterated to the extent of 95 per cent. Defendant was fined £5 with costs.—Jane Lansdown, of 23, Clarendon Street, Paddington, was summoned for a similar offence, the percentage of foreign fats being 65. The defendant pleaded that she bought it as pure butter, and sold it as such. The Inspector said he had sampled the defendant's goods repeatedly before with satisfactory results, and he quite believed her statement that she thought the butter was all right. Defendant was



ordered to pay 12s. 6d. costs.—Peter Poole, of 34, Westbourne Terrace, North Paddington, also answered to a summons for selling butter containing 95 per cent. of foreign fats, and pleaded guilty. Mr. Plowden imposed a fine of 10s. with 12s. 6d. costs.—George Williams, of 25, Porteus Road, Paddington, was summoned for selling butter containing 80 per cent. of foreign fats. The defendant pleaded that he bought it as butter, and thought it was such. Defendant was ordered to pay the costs, 12s. 6d.

At Leek on December 27th, Thos. Henry Morris, grocer, High Street, Congleton, trading as the Macclesfield Tea Company at Bradley Green; and Harold Whalley, assistant, were charged with exposing two pieces of margarine on November 25th, without having the proper label affixed. Mr. E. W. H. Knight, inspector of weights and measures, prosecuted; and Mr. Barclay, of Macclesfield, defended. William Gifford, assistant to Mr. Knight, said he saw the two pieces of margarine exposed for sale with labels on them, the letters on which were only 3-8in. square, whereas the Act said they should be 1½in. square. Mr. Barclay contended that the owner of the business had done everything in his power to comply with the Act, inasmuch as it was the assistant's place to send for the proper labels when he was out of them. Several of the magistrates disagreed, and it was decided that the case should be reheard. On being called upon again, before Sir Thos. Wardle, and Messrs. H. Sleigh, A. Ward, J. Brealey, and A. Morton, Mr. Paine appeared for the prosecutor, and stated that in his opinion the Bench should not consist of any of the magistrates who disagreed. The Clerk ruled that the magistrates could sit again. Mr. Paine then said he hoped that no one connected with the trade would sit upon the Bench. Mr. Morton and Sir Thos. Wardle decided not to adjudicate. Wm. Gifford was called again, and said he paid 5d. for a half-pound of the margarine. Mr. E. W. H. Knight produced the certificate, which showed that the margarine contained only 12 per cent. of real butter. He said that the price of margarine depended upon the quantity of butter it contained. Such margarine contained 50 per cent. of butter, and that would be worth 1s. a pound. The margarine in question was worth 5d. or 6d. Morris was fined £2 and costs, and the advocate was allowed £1; and Whalley was fined 1s. and costs.

At Leeds on December 29th, Walter Keane, grocer, 43, Richmond Road, Leeds, was charged at the instance of Inspector Walker, with having exposed margarine for sale not bearing a label as required by law, and was fined 20s. A similar fine was imposed on Albert Keane, grocer, 50, Upper Cross Street, Leeds (brother of the former defendant), for a like offence.

At Coventry on December 30th, Henry Wimpres, was summoned for selling margarine as butter. Inspector Clarke proved that in 1894 defendant sold at a shop in Gosford Street, Coventry, 10lb. of butter. The analysis showed, however, that the article contained 90 per cent. of foreign fat. The Bench having overruled an objection taken by Mr. Masser that the summonses were served in Philadelphia, and heard the statement that Wimpres himself bought the margarine as butter, imposed fines amounting to £40. with costs; in default a sentence of six week's imprisonment in each case.

At Sunderland. Robert Grieves Davison was summoned under the Food and Drugs Act. Mr. F. M. Bowey, Town Clerk, prosecuted, and Mr. E. Bell defended. Mr. Bowey said that on November 24th Elizabeth Wilson Reed went into Mr. Davison's shop, Alexander Terrace, and saw what appeared to be two half casks of butter, which were not labelled. She asked for butter, and was served at 1s. per pound. Inspector Pennock entered the shop, and took possession of the butter, which was sold in a paper bearing no indication of the contents. The sample was analysed, and the certificate stated that it contained at least 20 per cent. margarine. Miss Reed and Mr. Pennock gave evidence. Mr. Bell said he intended to call witnesses to prove that the butter was pure and unadulterated. Mr. Bowey objected, and pointed out that the Act stated that the production of the certificate was sufficient evidence of the facts therein stated, unless it was required that the analyst should be produced. The analyst's attendance had not been required. Mr. Bell contended that the Act should be interpreted that the certificate was "sufficient" evidence, but not "conclusive" evidence, and its production did not debar him from calling evidence that the butter was pure. It was then for the magistrates to weigh the evidence. The magistrates decided in favour of Mr. Bell. Mr. Bell said the butter had been bought from Mr. Joshua Wilson, and was guaranteed pure. Mr. Davison, the defendant, spoke to the purchase of the butter. Mr. C. Ranken and Mr. Merson, analysts, both spoke to having analysed a sample of the butter, which was pure. Mr. Bowey asked the magistrates, in face of the conflicting evidence, to have a sample sent to Somerset House for analysis. Other witnesses were then called, tracing the butter from the warehouse to the shop. Mr. Andrew Wilson gave evidence as to the purchase of the butter. The Bench then retired, and after a short absence returned to court and dismissed the case. The defendant was then charged with selling margarine without it being properly branded. Mr. Bowey said he was proceeding with that case principally in the hope that they might be induced to have the sample analysed at Somerset House. The magistrates said they did not see that there were any fresh facts to cause them to alter their decision.

The Magistrates' Clerk said it was practically the same case. The magistrates repeated their decision. The costs of the prosecution were not allowed against the defendant.

WHAT IS "SALT" MIXTURE?—Mr. John Hughes having shops at 2, Lisbon Street and Cambridge Street, Bethnal Green, last week appeared before Mr. Cleur, at Worship Street, to answer three summonses, two being for selling margarine without the same being in a paper properly marked, and the third for exposing a parcel of margarine for sale without it being labelled. Mr. W. T. Ricketts, solicitor, defended. The prosecution was instituted by the sanitary authority of St. Matthew, Bethnal Green, for whom Mr. Margetts called Inspectors Richards and Mills to prove the purchase at the two shops named. It appeared that in neither instance was "butter" asked for, but the purchasers, going in each with a saucer or plate, asked for a "quarter of fourteen salt"—a colloquialism for salt butter at 1s. 2d. per lb. The article supplied, in one instance, was seen to be taken from a tub which was not labelled, was put into the plate or saucer offered, and a piece of paper put over it. The paper in neither instance bore the word "margarine," but the article, on analysis, was found to contain over 81 per cent. of foreign fat, with only 7 per cent. of butter fat. Mr. Ricketts said the defendant had given strict instructions to his assistants to use the margarine wrappers where margarine was supplied, but in these instances the shop girls had been misled by the purchasers offering a plate to receive the article, and though he did not accuse the sanitary inspector of desiring to trap the assistants, there was no doubt they had been led to believe it was not necessary to wrap up the goods. The defendant had summoned the two assistants for the breach of the law as being the real offenders. The defendant was called to bear out this, but was asked by the magistrate whether salt "margarine" was known in the trade. The defendant admitted it was not. Mr. Cleur, Then a "quarter of fourteen-penny salt" must mean salt "butter at 1s. 2d.?" The defendant said he kept a mixture, having margarine and good butter beaten together, to be sold as "salt." Mr. Cleur: Did ever a customer in your shop ask for a quarter of "mixture?" The defendant admitted that it had not happened yet. Mr. Cleur said that he thought it a very bad case, aggravated by the fact that the defendant had tried to bring his girl assistants in as the offenders, and that they were told to sell the spurious and fraudulent mixture as salt butter. He fined the defendant £10 on each summons. The money (£30) was paid at once.

WHISKY PROSECUTIONS.—At Hailsham Petty Sessions, Frederick Butcher, Rushlake Green, Warbleton, was summoned for selling whisky, adulterated to the extent of 3/42 below the legal limit. Defendant, who was represented by Mr. F. Lawson Lewis, of Eastbourne, pleaded not guilty. Thomas Latham, Inspector to the County Council, deposed to purchasing half a pint of Scotch whisky from the Market Room, Hailsham, and sending it away for analysis, with the result that it was found to be 3/42 below the legal limit. Cross-examined by Mr. Lewis: He was served by Miss Pitcher, but he did not see her wash out the measure before drawing the whisky. Defendant went into the box and said the whisky came from Seaford. He tried it and found it to be full proof. Then he broke it down to 24/2 below proof, the amount allowed being 25. Miss Ellen Pitcher also gave evidence, and said she washed the measure out before drawing the whisky and did not stop to wipe it. Mr. Lewis, in submitting that it was a mere technical offence, said he did not think the people who went to Hailsham Market on the day in question would complain that their whisky was one-fortieth part of less strength than it ought to have been. Dr. Jeffery: You think they prefer whisky and water to whisky? Mr. Lewis: Yes (laughter). Defendant was fined 5s. and 12s. costs.—At Hastings, Henry Hollingham, manager of the London Distillery, High-street, was summoned under the Food and Drugs Act for selling whisky under proof. Mr. Ben. F. Meadows (Town Clerk), prosecuted, and stated that he could not call the inspector as he was ill. The whisky in question was 70 degrees under proof. Mr. Morgan defended, and after he had addressed the Bench, defendant was fined 40s and costs (49s).—Paid.

SULPHURIC ACID IN VINEGAR.—At Marlborough Street, on December 29th, Samuel Thompson, a grocer, of 22, Brewer Street, was summoned by Thomas Calverley, an inspector under the Food and Drugs Act, for selling vinegar adulterated to the extent of 0.1556 per cent. of sulphuric acid. Mr. Hitchins, solicitor, supported the summons on behalf of the St. James's Vestry, and Mr. Philip Conway, solicitor, was for the defence. Dr. Edmunds, public analyst to the Vestry, deposed to having found the quantity of sulphuric acid mentioned in the summons. For the defence Professor Atfield was called and gave evidence of having applied every test for sulphuric acid in the vinegar, but without success. What he did find, however, was some phosphoric acid, which was a natural constituent of vinegar. Mr. Hitchins produced a letter from Somerset House, a sample of the vinegar having been sent there for independent analysis, in which it was stated the authorities confirmed Dr. Edmunds' certificate. It having been mentioned that the defendant had been previously fined for selling adulterated cocoa, Mr. Fenwick ordered him to pay a fine of £5, with six guineas costs.



**BONUS TEA PROSECUTION.**—The Handsworth magistrates' decision in the bonus tea case that was brought before them a month ago by the police has just been made known. Edward Hutchinson, of Bootle, Liverpool, was then charged with keeping a shop at 140, Albert Road, Handsworth, for the purpose of distributing prizes by chance amongst purchasers of tea sold by the Karo Tea Company. The prosecution was conducted under the two heads afforded by the Lottery and Vagrancy Acts. The magistrates adjudicating in the case were Messrs. Pearson, Bushell, and Wootton, and the first-named, in delivering judgment, said: We have carefully considered the evidence in these cases, and we find that as a fact the receipt or non-receipt by any person or persons of a cash bonus of £1 is a matter of chance. We are of opinion that the business has been proved to constitute a lottery, and that the defendant is guilty of the offence with which he is charged. We shall convict him as a rogue and vagabond, and fine him £5 and costs, or in default distress; and under the Vagrancy Act he will be fined 1s. and costs or in default distress. It must be understood that the "rogue and vagabond" is simple formal, and certainly not intended to have any personal application. Mr Quilliam (Liverpool), solicitor for the defendant, said notice of appeal would be given.

### Tincture of Rhubarb Adulteration.

**IMPORTANT DECISION AGAINST THE BRITISH PHARMACOPOEIA**—George S. Drayton, a chemist, in business at 80, Woodgrange Road, Forest Gate, was summoned at West Ham Police Court on January 3rd, by Dr. C. Sanders, Medical Officer of Health for West Ham, for selling compound of rhubarb powder not of the nature, substance, and quality demanded, such article not being "genuine compound rhubarb powder according to the formula of the British Pharmacopoeia. It contained only 30 per cent. of magnesia, whereas 66½ per cent. is prescribed by the British Pharmacopoeia." Defendant said he had only recently taken over the business, and the article in question was already made up and marked. After his attention had been drawn to the matter he examined the article and found that it had been made of carbon magnesia instead of oxide magnesia. Most chemists used the carbon instead of the oxide, as it mixed more freely with water. Mr. Alfred Smith, one of the sanitary officials, deposed to purchasing half-an-ounce of compound rhubarb powder at defendant's shop on November 14th. Defendant served him. By defendant: He did not ask for "compound rhubarb powder, B.P.," nor did he present a doctor's prescription. He asked for "compound rhubarb powder." Thomas W. Crocker, another assistant, spoke to receiving the article, and added, in reply to Dr. Sanders, that he intended to purchase the British Pharmacopoeia article. He understood that to be the only standard. Mr. Baggallay: When did it become so? Witness: It is only common knowledge. By defendant: Mr. Smith was not told to purchase the B.P. article. He had his instructions in writing. Mr. Baggallay: It does not matter what were the instructions; he did not ask for "compound rhubarb powder, B.P." Defendant: Unless the B.P. is specially asked for, the chemist uses his discretion. It makes not the slightest difference. The chief ingredients, ginger and rhubarb, are in the proper proportion. The Public Analyst's certificate having been put in, Mr. Baggallay said he was of opinion that the summons could not be supported, even if it was in itself good. The information stated that the article was not genuine compound rhubarb according to the British Pharmacopoeia, as it contained only 30 per cent. of magnesia, whereas 66 per cent. was prescribed by the B.P. But it was not necessary that a drug to be genuine should be made according to the B.P. There was no Act of Parliament which made the B.P. the standard of any compound of drugs. The statement that the drug was not according to the B.P. was bad on the face of it; but if that was not bad the certificate of the analyst did not prove the case. He (the analyst) did not say the compound rhubarb powder was not genuine, but that it was not in accordance with the British Pharmacopoeia. The case would be dismissed. Mr. Drayton asked for costs, and was granted 10s.

**COCOA PROSECUTION.**—At Bow Street, on December 29th, Nicholas John Hall, grocer, 27, New Street, St. Martin's Lane, was summoned before Mr. Marsham, by William Cooke, inspector under the Sale of Food and Drugs Act to the St. Martin's Vestry, for selling cocoa adulterated with 30·3 per cent. of starch (other than cocoa starch) and 24·4 per cent. of cane sugar. The defendant pleaded guilty, and said it was entirely due to his own carelessness, as he neglected to put the cocoa in a bag labelled to denote that it was chocolate powder. In reply to the magistrate, Inspector Cooke said he had caused several samples of goods from defendant's shop to be analysed on previous occasions, and this was the first complaint he had found it necessary to make. The defendant was fined £3 and costs.

At Thames Police Court, Charles Price Halifax, of 226, East India Dock Road, Poplar, appeared to answer a summons charging him with selling cocoa adulterated with 18·4 per cent. of sugar and 58·6 per cent. of arrowroot. Mr. Young prosecuted. On the 16th November a sample of 1s. cocoa was purchased at the defendant's shop by Mr. Bullock, inspector under the Sale of Food and Drugs Act, for the purpose of being analysed. The certificate showed the cocoa to be adulterated with over threequarters of foreign matter. The

defendant said his daughter ought to have sold the sample as chocolate powder. Mr. Mead fined the defendant £4 and £1 costs.

**"GOLDEN" SYRUP.**—At Marylebone on December 27th, William Hollest, carrying on trade at 88, Osnaburgh Street, Regent's Park, W., was summoned for selling to the prejudice of the purchaser golden syrup which had been adulterated by the admixture of glucose syrup to the extent of 75 per cent., so that it was not of the nature and substance demanded by the purchaser. Inspector Warwick said he entered defendant's shop on November 16th, and asked the defendant for one pound of golden syrup. He served him with the article, and charged him 3d. Mr. Plowden: What do you understand golden syrup to be made from? Syrup from sugar cane. Do you know what glucose is? No, not exactly. Mr. Plowden: I do not suppose you have done very much harm to the public. I do not suppose the demand for the articles is very extravagant, or that those who get glucose suffer acutely. "All is not gold that glitters." The defendant was fined 5s., with 12s 6d. costs.

FREDERICK SWIFT, of 104, Osnaburgh Street, was summoned for a similar offence. Mr. Plowden: Is Golden Syrup, treacle? Mr. Ricketts: Yes, of the finer sort. Glucose is used in the manufacture of jam. The Defendant: I sold the stuff, but not as golden syrup. Inspector Warwick said he asked for a pound of golden syrup. Mr. Swift said, "If you represent the Vestry I do not think I shall serve you." Witness told him if he did not serve him the matter would be reported to the Vestry. Mr. Swift then served him, and was paid 3d. for the article. The Defendant: I sold it as what I had got, and not as golden syrup. Mr. Plowden: What do you mean? What do you think you were selling? The Defendant: I do not know. Mr. Plowden: Do you mean to say that you, a tradesman carrying on business and parting with your articles for money, did not know what you were selling? The Defendant: Treacle, I suppose, or something of that sort. Mr. Plowden: You do not seem to care very much what you sell. The Defendant: Oh, yes, I do. Mr. Plowden: Then why not take some trouble to find out what your goods are? Yours is a most extraordinary statement. What did you think the article was when you parted with it? The Defendant: A mixed treacle, I think. Mr. Plowden: This case shows how widespread this mischief—this poison—of adulteration is. There is scarcely an article of commerce that escapes it. He fined the defendant 5s., with 12s. 6d. costs.

**OLIVE OIL.**—At Dartford Police Court, the International Tea Co., Dartford, appeared to a summons issued at the instance of Police Superintendent Sharp, for selling a flask of olive oil to P.C. Charles Dengate, which was found upon analysis to consist wholly of cotton seed oil. Mr. F. W. Beck, solicitor, appeared for defendants, and urged that the oil was sold under a guarantee of purity given by a wholesale firm in London, from whom the oil was purchased in September, owing to the non-arrival of a shipment of oil. Mr. Guy Collyer, manager of the grocery department under the defendant's company, said he purchased from the London firm named on September 8th five and half chests of olive, guaranteed pure. The summons was dismissed.

### The Board of Agriculture on "The Marking of Margarine and Margarine Cheese.

MR. A. J. GILES, Secretary to the Grocers' Federation, has received the following letter:—

"Board of Agriculture,  
"4, Whitehall Place,  
"London, S.W.,  
"28th December, 1899.

"SIR,—

"Adverting to your letter of the 13th inst., I am directed by the Board of Agriculture to say in reply to your first question, that they are advised that, if a wholesale dealer in margarine or margarine cheese keeps a proper register of every consignment of such substances sent out from his place of business in the course of his trade as a wholesale dealer, he would appear to be complying with the Act, though he may send out from the same premises other consignments in the course of his business as a retail dealer.

"As regards the method in which the register itself should be kept, I am to say that the Board have no statutory authority to impose any specific form, and therefore do not propose to supply any book, but I am to point out that the Act requires the register to show the quantities and destination of consignments, and the Board would suggest that this requirement would be best fulfilled by keeping a separate register of consignments of margarine and margarine cheese, the columns of which might be conveniently headed 'Date,' 'Quantity,' 'Marks on packages,' 'Name of consignee,' and 'Destination.'

"I am, Sir,

"Your obedient servant,

"T. H. ELLIOTT, Secretary."



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## Food and Sanitation.

SATURDAY, JANUARY 13, 1900.

### Abominations of the Condensed Milk Trade.

ONCE more—the third time in as many weeks—we have to record the conviction of a dealer in unsound condensed milk, and again we have to ask what are the manufacturers and wholesale dealers doing to stop this abominably filthy and dangerous traffic. It ought to be evident to even the most covetous of the firms who sell this poisonous filth that in the long run the practice must react upon and injure the sale and reputation of sound,

wholesome, condensed milk. Leaving out of the question for the moment any arguments upon higher grounds, trade considerations alone ought to be enough to cause the wholesale dealers to adopt some way of getting rid of unsound tins and stop conniving at the use of rotten condensed milk for pastry, caramels, etc. Much of the milk which is unfit for human food is doubtless good enough for pig-feeding, and it ought to be easy for wholesale dealers to establish a central sorting house to which all unsound tins would be sent and be there sorted and those fit for pig feeding be sent to a pig farm, whilst the utterly unfit tins should be destroyed. There is a growing anxiety on the part of food inspectors to get at the real criminals—the wholesale dealers who dispose of this rotten food well knowing that it will be sold by their tools to confectioners—and some of the original vendors of rotten milk may be surprised one day to find themselves in the dock beside their accomplices. It should be borne in mind that magistrates have the power to inflict imprisonment without the option of a fine for this offence.

### Reports and Analyses.

#### Van Houten's Cocoa and Chocolates.

It is very evident that Her Majesty the Queen in her timely gift of chocolate to our soldiers engaged in South Africa, not only sent the most acceptable of offerings to the troops, but has caused many thousands who have hitherto not used chocolate to try that article of food. If the result should be a vastly increased consumption of chocolate and cocoa, Her Majesty's kindly act will do a great public service. The most thoughtful dietetists have for some years viewed with anything but feelings of satisfaction the enormous growth in the consumption of tea in its worst form, because unfortunately for the public health it is the most harmful tea grown which has captured the public taste in the United Kingdom. The rough heavy astringent teas from India and Ceylon have largely displaced the higher class of mild teas from China, and the enormous yearly increase in their consumption shows how widespread the habit of excessive tea drinking or "tea intoxication" has become. Dr. Haig notes that tea is by no means the harmless substance it has been supposed to be, and may really bring about in the course of a year the introduction of a huge quantity of uric acid, and thus account for some of the most serious effects of diseases. The momentary stimulation experienced by the tea drinker is in many cases dearly bought. The large proportion of tannin present in tea, forms, when in contact with albuminoid matter, compounds closely related to leather. Mr. David Crole, lecturing at the Society of Arts, stated that when the tannin of tea was taken in conjunction with albuminoid matter as in that horrible meal dear to the hearts of a certain class of English folk, and to many Colonials, called a "meat tea," a leathery compound was very soon formed which took all the time of a powerful digestion to tackle and break up into compounds that could be assimilated. In fact, "meat teas," or any other similar combination of tannin and albuminoids, meant dyspepsia. To avoid in a great measure the tannin, tea should only be infused about three minutes, but experience teaches us that it is oftener infused from ten minutes to an hour—in Lancashire and Yorkshire it is a common practice to keep tea on the "hob" for half-an-hour or more until the husband or family came home from the mill. Hence the great injuriousness of tea-drinking. A larger use of cocoa and chocolate is therefore heartily to be



wished, because these substances supply at once a valuable stimulant and an admirable food. What really good foods cocoa and chocolate are the mass of people hardly know. Dr. Pavy, the most eminent authority on Food and Dietetics, emphasises the fact that, dietetically, cocoa stands apart from tea and coffee in the high nutritive power which its composition gives. Of chocolate, he stated, that taken with bread it will suffice in the absence of any other kind of food to furnish a good repast. If we compare cocoa of a pure make with beef tea, we see at a glance its enormous food value. Ordinary beef tea contains only two or three per cent. of albuminoids, *i.e.*, nutriment, whilst Van Houten's Cocoa contains over 22 per cent., thus being some ten times more nutritious than beef tea. But in addition this cocoa contains nearly 34 per cent. of cocoa butter readily digested, which diffuses a welcome warmth throughout the body. But in cocoa and chocolates it behoves the public to be on their guard. On another page we record one more of the many disgusting police court revelations of what becomes of rotten condensed milk. Tons of it go into the manufacture of caramels and chocolate creams, and however vigilant be the sanitary officials they can only stop a small part of the filthy trade,

and it is doubtful if fifty tins are not disposed of to unscrupulous manufacturers for every one tin seized by the food inspector. The present is an age of artful fraud, and cocoa and chocolate suffer all manner of sophistications. Kola, malt and hop adulterations are only humbugging swindles, by which unscrupulous rogues palm off inferior cocoas on the public at the price of really high-class genuine cocoas.

The makers of pure wholesome cocoa and chocolates are not many, and Van Houten's have long enjoyed a world-wide reputation for excellence of manufacture, for high quality and purity. The drops, croquettes, etc., Van Houtens now offer for sale are so admirable in quality and flavour, that it would be hard indeed to improve them.

Finally, it should be known that Van Houten's cocoa and chocolates contain notable percentages of theobromine which Dr. Armand Gautier mentions as a valuable heart tonic.

It will therefore be a matter of congratulation and much public benefit should Her Majesty's kindly gift to our troops lead to an increase in the consumption of cocoa and a decrease in that of tea and coffee.

## Dietetic and Hygienic Notes.

### "Public Health" and Chlorine Disinfectants.

THE journal of the Medical Officers of Health, *Public Health*, is this month an excellent number, the articles which will probably attract most attention being one on "The guidance of public effort towards the prevention of consumption," by J. Ashburton Thompson, M.D., D.P.H., Chief Medical Officer for New South Wales; and a very valuable contribution on "Tuberculous meat; uniformity as to seizure by Wm. Berry, F.R.C.S.I., M.O.H. Wigan. The late Medical Officer of Health to the Strand Board of Works pinned his faith on Chloride of Lime before any other disinfectant, and hardly hesitated to stigmatise carbolic and other fancy preparations as impostures. It would seem that Chlorine is likely to once more come largely into favour with Sanitary Officials. *Public Health* says:—

Commercial chloride of lime has until recently been the only form of chlorine readily available for disinfectant purposes. From this it is possible by agitation to obtain an aqueous solution containing 5 per cent. of chlorine; but at that strength sedimentation is slow, and the large bulk of the sludge (insoluble lime salts) results in the loss of upwards of one-third of the liquor. This fact and the pungent odour of the powder probably account for the facility with which less reliable preparations of carbolic acid, etc., have obtained a practical monopoly. The United Alkali Company, the largest manufacturers of chlorine in the world, have, however, brought out certain preparations—viz., "Chloros" and "Sanitary Chloride of Lime"—which promise to rehabilitate disinfection by chlorine.

The evidence in favour of the value of chlorine is very strong. Passing by Koch's work on the subject (his results will be found in Günther's *Bakteriologie*), we may mention Bokorny's determinations of the relative values of mercuric chloride, potassium permanganate, carbolic acid, chlorine, etc. He bracketed chlorine with mercuric chloride, both being effective in dilutions of 0.01 per cent., while chlorine proved fatal to certain organisms with dilutions as high as 0.001 per cent. Delépine, at the Leeds Meeting of the Sanitary Institute, stated that 1 in 100 solutions of chloride of lime—*i.e.*, containing 0.35 per cent. of available

chlorine—were fatal, "in a few minutes," to the spores of *Bacillus anthracis*, which statement was endorsed by Sims Woodhead. Klein has reported that solutions of hypochlorite of soda containing 0.35 per cent. of available chlorine will kill the *B. proteus vulgaris*, *B. coli*, *B. typhosus*, *B. diphtheria*, the vibrio of Asiatic cholera, and *Staphylococcus pyogenes aureus* in five minutes, whilst a solution containing 0.1 per cent. of available chlorine completely sterilized the sewage of St. Bartholomew's Hospital in ten minutes. Similar results have been previously obtained by Clayton.

"Chloros," a solution of sodium hypochlorite, contains 10 per cent. of available chlorine, equal to 120 grammes per litre. Its efficiency can be measured by the amount of chlorine available in any of its dilutions, whilst its concentration renders it suitable for distribution to the public for subsequent use in such dilutions. It does not readily undergo decomposition, and its price is such as to allow of a free distribution without incurring excessive expenditure. It is suitable for any of the purposes to which the disinfectants now on the market are used.

"Sanitary Chloride of Lime" contains either 10 or 15 per cent. of available chlorine, instead of 35 per cent. contained in the commercial preparation. The lower strengths are advantageous in that the powder does not tend to form a pasty mass, as does the commercial, which renders it unfit for sprinkling and dusting. A standard composition of 10 or 15 per cent. is preferable to a variable one, which may be 35 or lower, as the preparation can be used with more confidence. We need not refer to advantages which a preparation of known composition enjoys over those whose composition is concealed.

We have on more than one occasion already commended these preparations, and we feel sure that the sanitary service will appreciate them and find them generally useful.

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### An Appeal lodged in the Boracic Acid in Clotted Cream Case.

WE are informed that an appeal has been lodged by Messrs. C. J. Smith and Hudson, against the decision of



Mr. Shiel, as to the use of preservatives in cream in the case of Whipp v. Hudson Brothers, London (Limited). Mr. C. F. Gill, Q.C., and Mr. Horace Avory have been retained for the appellants, and an application will be made on the first day of the Sessions for a special appointment for the hearing, which is expected to occupy some time.

\* \* \* \*

### The Packet Tea Prosecution at Newcastle.

BROOKE, BOND & Co., Ltd., write:—"It is a fact that two directors of Brooke, Bond & Co. hold a large number of shares in the Bombay Tea Company. They hold (for, and on behalf of, Brooke, Bond & Co.), 9400 ordinary, and 9605 preference shares, out of a total capital of 35,000 ordinary, and 35,000 preference shares. But these gentlemen are merely shareholders. They are not responsible for the direction of the Bombay Tea Company, while Brooke, Bond & Co. are not in any way represented on the directorate, nor have we any voice in the management. It is on this single fact of shareholding that Mr. Ward has built his allegations, which are absolutely untrue. To say that we pose as 'pioneers of purity' is a ridiculous alliteration, the jingle of which only tickles the ear of the ignorant and illogical. But we do say that during our whole business life of upwards of thirty years we have never sold paper as tea; that we have always protested against others doing so; and, finally, that we have, at considerable expense to ourselves, successfully fought out the question in court, and stopped the practice on the part, at any rate, of one of the largest distributors in the trade.

\* \* \* \*

### Where Wholesale Dealers in Margarine must Register.

City of London—Public Health Department, Guildhall, E.C.

County of London—Local Vestries and District Boards.

County and other Boroughs with population over 10,000—Town Councils.

Smaller Boroughs and Provincial Towns—County Councils.

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### Eels as Water Purifiers.

PROFESSOR SOBRERO, of Turin, has recently suggested that eels should be used as purifiers of water. All that one has to do is to put two or three eels, not very big but lively, into the domestic cistern. The fish devour with marvellous appetite everything which the water may chance to contain in the way of animalcules, infusoria, bird droppings from the roof, vegetable matter of any kind; nothing comes amiss to them.

\* \* \* \*

### The Composition of Jam.

THE prosecution at Hull of a dealer in jam which purported to be black currant but was composed of a proportion of apple pulp was noticeable for the blunt statement on behalf of the defence that every maker put apple pulp into black currant jam. It would be interesting to know which of any of the jam makers prepare genuine foods. At the time of the sensational seizures a few months ago it was common knowledge that others of the largest jam makers used fruit which was in quite as objectionable a condition as that seized, but somehow the Health officials did not swoop on them. The jam and sausage trades appear to be like the birth of Thackeray's Jeames "wropped in mystery."

### A Frank Explanation of what Sausages are.

APROPOS of the New Food and Drugs Act our contemporary, *The Meat Trades Journal*, has some interesting remarks about Sausages.

"Sausage Makers need not be apprehensive," it says, "with regard to sausages some misunderstanding seems to be in the air as to what these are in the eyes of the law, and many sausage makers are apprehensive that they must in future use nothing but meat. This is all nonsense. A 'sausage' is a compounded mixture sold in casings which has no fixed composition, and the seller can put in pretty much what he likes, in any proportion he likes, provided it is not injurious to health. A wise man of course hardly needs to be told that to use inferior materials is to say good-bye to his trade. The public are generally sceptical about the composition of sausages and quickly detect anything that may be wrong.

"The use of 'sausage meal' bread, granulated rice, biscuit meal, spices, condiments, and all such ingredients is quite legitimate; colours also, if innocuous, are quite legitimate. Of course, it is supposed that if the sausage maker does not know what colours he is using, and that it is innocuous, he will take the pains to ascertain that they are so from the merchants or makers who supply him. It is conceivable that such ridiculous titles as 'pure' pork sausage, 'genuine pork sausage' might land their imaginative users liable under the Act. A 'pure pork' is neither made nor wanted. Of like nature are such choice fictions as 'boar's head brawn,' and other delicacies. 'Ham, chicken and tongue sausage' would come under the same category as ordinary sausage; no quantity or proportion of either ingredient being guaranteed and the admixture of sausage meal and other substances being quite allowable, except where the same sausage is described (as we have seen it) as 'pure.'"

From the consumers point of view it seems a pity that sausages can be made of anything the maker likes to use, so long as they are not injurious to health. In common with many other people, we, for a long time, left sausages severely alone. Possible this may be the safest attitude, unless one can be sure of getting sausages such as Shippams' Chichester make, in which the quality of the meat is apparently good enough to do without the usual high seasonings. Whatever fancy name it bears, Cambridge or any other, it is a safe principle to work upon to avoid the highly-seasoned sausage, because it is the seasoning that does it, as Dickens said. Without the high seasoning, tons of rubbish now sold as sausages would be destroyed.

\* \* \* \*

### Typhoid Epidemic, alleged to be caused by Milk, at Ayr.

AN epidemic of typhoid has broken out in Ayr, and already over 160 cases have been notified. The cause has not been definitely ascertained. It is stated to be caused by the milk of a certain dairy, from which most of the victims received their supplies.

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### The Value of a Fruit Diet in Gout and other Diseases.

HOWEVER indisposed the majority of Englishmen may be to take vegetarianism seriously, there is no doubt whatever that our people eat inordinately of meat, and would be the better were they to eat fruits more frequently and in larger quantities. So cautions a writer as Dr. Pavy notes that fruit counteracts the unhealthy state induced by a diet of dried and salted provisions, and other observers have recommended the juice of half a lemon in warm water, taken before breakfast, as a preventive of bile. Dr. Weiss has for some time been experimenting with fruits in the treatment of gout. Cherries, strawberries



and grapes cause a marked reduction in the amount of uric acid excreted, and a proportionate increase in the production of hippuric acid—of which, ordinarily, only traces are present in human urine. He regards quinic acid as the active ingredient and has isolated it from the fruits he has analyzed. Quinic acid appears to exist in many vegetables, even in grasses, but is most easily obtained from the bark of the cinchona tree. By administering it to patients, Weiss claims to have produced a decided decrease in the excretion of uric acid, and recommends its use therefore, as a prophylactic as well as curative agent in gouty states, especially when given in combination with lithium, as lithium quinate.

Fortunately, the main objections commonly used against the eating of fruits, that they were too often consumed in an unripe or overripe state, and thus cause derangement of the alimentary canal, have day by day less foundation. The vastly increased efficiency of sanitary inspection, and the gradual introduction of cold storage for fruit are both distinct public benefits. Not only can some of the most delicate fruits be now bought all the year round, but they can be supplied sound, ripe, and perfectly conditioned by cold storage at moderate prices. It would be hard to tell the health value of the millions of oranges old and young are now consuming. With the increase of municipal cold storage, the natural preservation of fruits, which at present enjoy only a short season, will be extended, and the public be able to buy them everywhere at reasonable prices. Indeed we do not despair of seeing even strawberries on sale all the year round at prices nearly as low as in their summer season. It may be worthy of note that in Russia a decoction of strawberry leaves and roots is a favourite remedy for gout. Of the apple, Dr. Wilson says that few persons are familiar with its remarkably efficacious medicinal properties. Every-

body ought to know that the very best thing they can do is to eat an apple just before going to bed. The apple is excellent brain food, because it has more phosphoric acid, in an easily digested shape, than any other fruit known. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. It also agglutinates the surplus acids of the stomach, helps the kidney secretion, and prevents calculus growth, while it obviates indigestion, and is one of the best preventives of disease of the throat. Next to lemon and orange it is also the best antidote for the craving of persons addicted to the alcohol and opium habit.

By means of Cold Storage apples can now be bought all the year round.

\* \* \* \*

### Tuberculosis in various Animals.

THE differences in the distribution of tuberculosis between the various classes of animals at the Zoo are marked. Reptiles of all sorts are almost exempt, probably because the tubercle bacillus cannot live at the low temperature of their bodies, although two or three suspicious cases were found in tortoises and pythons. Animals suffer nearly fifty per cent. more severely than birds. But the most striking difference is that between the meat-eaters and vegetable feeders. Among vegetarians (monkeys, antelopes, deer and kangaroos) it causes twenty-six per cent. of all deaths; among meat-eaters (lions, wolves, small cats, civets) barely three per cent. Among grain-eating birds (pheasants, peafowl, grouse, ostriches) tubercle is responsible for thirty per cent. of all deaths. Among flesh-eaters (eagles, vultures, owls, crows) eleven per cent. Comment is superfluous. An open-air life and a meat diet are clearly the best protection against consumption.

## Cold Storage.

(Continued from page 9.)

### Its Importance to Butchers, Fish and Game Dealers, Butter Merchants, Provision Dealers, Dairymen, Fruiterers, Greengrocers, and all engaged in the sale of Foodstuffs.

Dr. Arthur Pearson Luff, of the Home Office, says:

"Five cases were recorded in which the surgical use of boric acid produced death; Dr. Luff considers that if half a pound of the butter were regularly consumed per week, the five grains per day of boric acid thus taken would depress the heart, irritate the kidneys, and produce disorders of the alimentary canal. He advises that the use of boric acid in food should be prohibited."

Dr. C. T. Vachell, physician to the Cardiff Infirmary, states that in his practice he found that regular doses of five or ten grains of boric acid given to adults had produced eczema and necessitated the discontinuance of the remedy for a time. He considered that it should not be used in food at all.

Several surgical cases have been reported by Moldenkow, Hogner, Welch, Lemoine, and others, in which the use of borax and boric acid has produced serious and even fatal results. A number of experiments have been made on men and animals by Mattern, Förster Lelenker, and Chittenden, with the result that they all found that smaller or larger doses interfered with digestion and nutrition. The *Lancet*, on January 2nd, 1897, published the opinions of a number of eminent medical men on this subject, who appeared generally to regard the use of pre-

servatives with suspicion and disapproval, as liable to produce deleterious effects. This view is supported by *The British Medical Journal*, Dr. J. J. Evans, Professor Leech, Dr. J. Niven, Professor Dixon Mann, Dr. F. D. Simons, and others.

WHAT, THEN, IS THE TRADER TO DO?

What, then, is the trader to do? If he continues to use preservatives he risks ruin and prison, if he refuses to use them he must suffer the loss of great quantities of valuable food. Until a few years ago he had no alternative but to see his meat, fish, poultry, etc., turn rotten and become waste, save for manure. The enormous success which has attended the introduction of cold storage into the imported meat trade has led to the erection of premises for cold storage in London, Liverpool, Manchester, Sheffield, Cardiff, Birmingham, Glasgow, Aberdeen, and many other towns of importance, where the machinery employed for the cold storage also produces many tons of ice per day, which commands a ready and profitable sale. In some cases the ice needed to be improved, but the Linde inventions have triumphed over such shortcomings, and by their aid a beautiful ice, pure and clear as crystal, can always be produced at a cost very much below that at which the much more impure natural ice can be obtained.

Obviously, when we consider the dangerous position in which traders are now placed, and the "dead set" being made upon the use of preservatives by the medical profession, there is need for prompt action on the part of butchers, dairymen, provision dealers, fruiterers, and all concerned with our public food supply.



## ASK YOUR TOWN COUNCILS TO SUPPLY PUBLIC COLD STORAGE.

Town councils and municipal bodies should bestir themselves forthwith to supply a public want, and erect premises for cold storage with Linde refrigerating machines in their respective towns. The go-ahead cities and towns which have already done so find, that, in addition to affording a boon and a protection to traders as well as ensuring wholesome food free from any dangers by drugging for the inhabitants, there is a big profit made out of cold storage, ten to twenty per cent. dividends being the rule.

## THE PROFITS OF COLD STORAGE.

Speaking at the Liverpool Cold Storage Company's meeting recently, Mr. Ramsden, late President of the Butchers' Association, said they had already paid back the capital subscribed, and were now paying twenty per cent. to the shareholders for no capital whatever.

We see, therefore, that cold storage, whilst solving successfully the problem of keeping food in a perfect state for all reasonable periods, is a very profitable investment, either for municipal bodies, for limited companies, or for private capitalists.

## THE COST OF COLD STORAGE IS NOMINAL.

Besides shielding the trader from the risk of prosecution, fine, and imprisonment for adding drugs to food, the adoption of cold storage will do away with waste of meat, fish, fowls, bacon, butter, milk, fruit, vegetables, etc., which for want of cold storage now become tainted or rotten and unfit for human consumption. At a small rent, every trader can have a separate, locked-up room, in which he can place perishable food, and take it out in such quantities as he requires for quick consumption; or he can deposit any kind of food singly at a moderate charge. Take, for example, the cold storage of butter and cheese.

A general charge for these articles is, butter, 2d. per keg for one day, and 6d. for two to seven days, or 23s. 4d. per month per ton. Cheese is charged 3d. per cheese for the first month, and  $\frac{1}{2}$ d. per cheese per week after.

## COLD STORAGE OF MEAT.

In the Midlands the charges average :

	First 24 Hours.		Each Day After.		Per Week.	
	s.	d.	s.	d.	s.	d.
Side ... ..	1	0	9	...	4	0
Quarter ... ..	9	...	6	...	2	6
Sheep and lambs ...	4	...	3	...	1	0
Pigs over 120lbs. ...	8	...	4	...	2	0
Under " ... ..	6	...	3	...	1	0
Side of pork ... ..	4	...	2	...	1	0
Calves ... ..	8	...	4	...	1	6
" Dutch ... ..	3	...	2	...	...	6
Sides veal ... ..	6	...	3	...	1	0

## COLD STORAGE OF FISH.

	First 24 Hours.		Two Days.		Three to Seven Days.	
	s.	d.	s.	d.	s.	d.
Large box ... ..	6	...	9	...	1	6
Small box ... ..	4	...	6	...	1	0
Kits ... ..	4	...	6	...	1	0
Kippers ... ..	...	...	...	...	...	1
Haddies ... ..	...	...	...	...	...	2
Whelks, bag... ..	...	...	...	...	...	3
Shrimps ... ..	...	...	...	...	...	6
Crabs, per cwt. ...	...	...	...	...	...	9
Salmon, per fish ...	...	...	...	...	...	2

For fishing centres specially low rates are charged for storage in bulk, which, at times of large catches, yields enormous profits.

## COLD STORAGE OF FRUIT.

Plums ... ..	1d. per basket per week.
Pears ... ..	1d. " "
Apricots ... ..	1d. " "
Apples ... ..	6d. per barrel.

## COLD STORAGE OF GAME, POULTRY, ETC.

Pheasants ... ..	1½d. per brace per week.
Grouse and Partridges	1d. " "
Hares ... ..	1½d. each " "
Fowls and Ducks ...	1s. per 2 cwt. " "
Turkeys and Geese	2d. each " "
Rabbits ... ..	½d. " "

## COLD STORAGE OF MILK.

4d. per can for 2 days.  
6d. per can for 3 to 7 days.  
Eggs, 2 cwt. boxes, 1s. to 1s. 6d. per week.

## COLD STORAGE OF VEGETABLES.

Beans are charged 3d. per bag per week.  
Cabbages, 6d. per crate, per week.  
Other articles proportionately.

## COLD STORAGE ENABLES TRADERS TO BUY CHEAPER.

Cold storage has the further advantage that it enables the buyer to purchase larger quantities and get the benefit of cheaper prices.

(To be continued next week.)

## Notes for Dairymen.

## The Disadvantage of Sterilized Milk.

WHILE a year ago, no one ventured to question the superiority of sterilized milk, we have noted says the *New England Medical Monthly*, recently a falling off of enthusiasm regarding this preparation; in fact, its use in some quarters has been almost entirely discontinued.

Carstens, of Leipsic, in a paper read at the Duesseldorf Congress, discusses this subject at length and gives a very satisfactory résumé of the advantages and objections connected with the use of sterilised milk. The chief conclusion reached by him is that the continuous and exclusive

use of this product by infants leads in a large number of cases to impairment of nutrition, as evidenced by the existence of anemia, rachitis, scurvy, etc. In addition to the physical and chemical changes produced by sterilization, the necessary uniformity of the food is shown to be an injurious factor.

Of course there are many conditions which render sterilization a measure of necessity, but on the other hand, it has been found that fresh, clean, slightly cooked milk gives equally good results, and is, besides, the nearest substitute for mother's milk.



## Cold Storage Notes.

### A Public Analyst on Cold Storage.

MR. W. F. LOWE, public analyst for Flint, Carnarvon, Anglesey and Denbigh, told the Food Preservatives Committee that the use of preservatives should in all but a very few cases be prohibited. The necessity for them was entirely obviated by the use of cold storage, by which all food, even fruits, could be preserved without deterioration. Mr. Lowe does well to call attention to the need for cold storage installations everywhere throughout the kingdom. Cold storage as it affects local authorities and traders is being dealt with at length in a series of articles commencing Jan. 6th. It is profitable, and every up-to-date municipality should have an installation.

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### What Cold Storage Company's Shares are Worth.

OUR contemporary, "Cold Storage," gives the following striking figures:

Shares	Paid up	Name of Company	Quotation
£1	12s 6d	Aberdeen Ice Manufacturing ...	£1 15s
1	10s	Bon-Accord Ice & Cold Storage	14s—16s
10	all	Cardiff Pure Ice & Cold Storage	£13 10s—£14
1	5s	Dundee Cold Storage ...	5s 9d
1	all	Liverpool Cold Storage ...	£1—£1 2s
1	4s	North-British Cold Storage & Ice	£1 2s
1	all	North-Eastern Ice & Cold Storage	£1 15s—£2
5	all	Sheffield Ice & Cold Storage	£10 10s—£11 10s
1	all	South Africa Supply & Cold Storage	£1 2s 6d
1	all	Vienna Ice ...	£1 15s

In addition to conferring a boon on traders and stopping surreptitious drugging of foods, municipalities erecting cold storage premises can realise large profits.

Slaters, Ltd., in 1894, only sold £15,323 worth of ice. In 1899 the sales increased to £54,303.

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### Ashton Town Council and Cold Storage.

THIS go-ahead corporation propose to adopt cold storage; municipally and officials are now preparing details for the Town Council.

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### Leeds Corporation Markets and Cold Storage.

TO MEET the wants and the wishes of traders the Corporation has decided to spend £73,000 in altering Kirkstall markets and in Cold Storage—a good example for other towns to follow.

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THE net profits of the Australian Chilling and Freezing Co., increased from £3,695 in 1898 to £6,114 in 1899. Sir E. M. Nelson announced a dividend of 7½ per cent.

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### Cold Storage in Cork.

MR. WM. WARNER, of Bantry, has concluded a contract with a firm of London engineers for a complete new factory at Albert Quay, Cork. This factory will be replete with all modern appliances, including a very large patent carbonic anhydride refrigerating machine capable of cooling 30,000 cubic feet of space. This machine will be used for cooling butter, eggs, poultry, &c., in different departments. A new departure likely to be fraught with much interest to the exporters of Cork will be the egg cooling department. During recent years the engineers have devoted much attention to the subject, and they can now with certainty deal with any quantity of eggs and can keep them in a neutral condition for six months.

### The Progress of Cold Storage in 1899.

A BUSY YEAR FOR THE "LINDE" Co.—The Linde British Refrigeration Co., Ltd., report that the past year has been one of their busiest. The establishment of branch offices in India and South Africa, in addition to their numerous other branches in various parts of the world, has resulted in a large increase in their business.

The firm manufacture ice-making and refrigerating machinery on the Linde system of "wet" compression of pure anhydrous ammonia, and up to the present day over 4,200 machines have been supplied, the total combined refrigerating effect of which is equal to that which would be produced by the actual melting of about 93,000 tons of ice every 24 hours.

Among the chief installations set to work by this company during the past year may be mentioned in particular cold stores and ice factories at Lowestoft, Hull, Leeds, Liverpool, Nottingham, Edinburgh, Aberdeen, Newcastle, Reading and Huddersfield, and at the present moment plants of a similar character are being constructed, or are in course of erection, for Birmingham, Cardiff, Newport, Coventry, Milford, London, Bath, Ramsgate, Limerick, Jersey, Leicester, Stalybridge, Newcastle-on-Tyne, Edmonton, and many other places—these plants being supplied for chemical works, provision dealers, dairies, butchers, and for innumerable other purposes in which the artificial production of cold at a low cost is beneficial to the development of a particular industry.

For the brewing trade a large number of orders have been executed, or are at the present moment in course of construction. Among brewers may be mentioned the following well-known firms:—Mitchells & Butler, Courage & Co., Mann, Crossman & Paulin, Ohlson's Cape Brewery, Taylor, Walker & Co., Old Ford Brewery, and many others.

The chief installations for ice making and refrigerating purposes for abroad, which have ordered from and shipped by the Linde British Refrigeration Co. are for Colombo, New Zealand, Aligarh, Wellington, Townsville, Shanghai, Penang, Gisborne, Rochampton, Allahabad, Brisbane, and others.

On board-ship the total number of machines now fitted amounts to considerably over 500. Many of these are of very large size, and in addition to the four large machines for the New Zealand Shipping Co., and three for Messrs. Turnbull, Martin & Co., two other orders have just been placed with the Linde Co. for fitting up two further boats of the New Zealand Shipping Co., each vessel having a cargo carrying capacity of about 125,000 carcasses of frozen mutton. Other vessels have also been fitted up for the Dominion Line, Messrs. Elder, Dempster & Co., The Nippon Yusen Kaisha, The Thompson Line, Manchester Liners, Earle's Shipbuilding Co., The Canadian Pacific Railway Co., Empresa Nacional Line, Russell & Co., Glasgow, and last but not least the hospital ship *Maine* for the Atlantic Transport Co.

Linde machines have also been supplied to a number of vessels belonging to the North German Lloyds (twenty in all have been fitted), and Linde machines are now being fitted on board two of the Hamburg-American boats building at Stettin. As regards the liquefaction of air, the introduction of Dr. Linde's apparatus for this purpose has met with great success. Over 130 of these plants have been supplied of varying sizes for different purposes.

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### Canadian Grapes in Cold Storage.

THE S.S. Manchester recently brought a lot of grapes specially grown in Ontario for the English market. When taken from the cold stores they were in very good condition.



### The Scottish Cold Storage & Ice Company, Ltd.

THE Secretary of the Scottish Cold Storage and Ice Company (Limited) states that warrants for Preference share dividends to the 31st December, also warrants for a 4 per cent. interim dividend on the Ordinary shares of the company, were posted last week.

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### Electric Refrigeration.

THE second annual general meeting of the shareholders of Lyon's Patent Electric Refrigerator Syndicate (Limited) has been held in Glasgow. The Chairman claimed that the company had now established the fact that their patent was the cheapest refrigerator in the market, and that they had now passed from the experimental stage to the commercial stage, and had at present

a perfected machine on exhibition, and that they also had on hand orders from butchers, fishmongers, wine merchants, and others which the company would be able to execute at handsome profits to the shareholders. He also indicated that the following patents had been granted:—British, French, Belgian, Spanish, New South Wales, Cape Colony, United States, as also that patents had been applied for in a variety of other countries.

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MR. JOHN HUBNER, St. Phillip's Road, Sheffield, has recognised the value of refrigeration and has ordered from Wm. Douglas and Sons, Ltd., a carbonic anhydride refrigerating machine, electric moter, electric lighting, fat and meat cutting machines, steam boiler, smoke stoves, and drying rooms.

## Administration of the New Food and Drugs Act.

### Circular from the Board of Agriculture.

A CIRCULAR, dated December 30th, has been sent from the Board of Agriculture to clerks of local authorities in Great Britain in reference to the Food and Drugs Act. It states:—

"The Board of Agriculture have already, in their circular letters issued in November last, A. 82-4-C, drawn the attention of local authorities to the provisions of the Sale of Food and Drugs Act, 1899, and I am now directed to submit, for the consideration of your local authority, the following further observations as to the exercise of the powers and duties conferred and imposed upon the local authorities and the Board themselves by the Act in question.

"Section 3 (1) of the Act specifically imposes upon the local authority the duty of appointing a public analyst and of putting in force from time to time, as occasion may arise, the powers with which they are invested, so as to provide proper securities for the sale of food and drugs in a pure and genuine condition, and in particular the duty of directing their officers to take samples for analysis, and the Board trust that by the regular and efficient discharge by local authorities of their statutory obligations in these respects any necessity for the exercise by the Board of the powers conferred upon them by Section 3 (2) and (3) of the Act may be reduced to a minimum.

"In this connection, the Board would particularly urge upon local authorities the necessity of making effective arrangements for the regular and systematic sampling of articles of food. Hitherto the extent of the work done in this direction in many localities, so far as appears from the number of samples examined in the course of a year, has been quite inadequate, and has failed to give effect to the intentions of Parliament in securing a continuous test of their purity and genuineness. According to the report of the Local Government Board for 1898-99 [C.—9444], there were forty-two English boroughs in none of which were more than twenty samples taken for examination in the course of the whole twelve months of the year 1898, and in many other large centres of consumption sampling appears to have been effected on so small a scale that it can have had very little influence in checking adulteration, or in protecting honest traders from unscrupulous competition.

Too often, also, the operations of the local authority appear to have been confined to one or two articles of food, while other kinds equally liable to adulteration have been permitted wholly to escape.

"In view of the altered position in which the administration of the law in regard to adulteration has now been placed in consequence of the passing of the Act of 1899, the Board would be glad if your local authority would consider whether the number and class of the inspectors appointed by them is such as to be fully adequate to meet the requirements of their district, and the Board would, in particular, urge upon your local authority, the advisability of employing, as sampling officers, a sufficient number of persons who have had experience in the class of work they are required to perform. Inexperienced officers are unable to exercise sufficient discrimination, and inconvenience and waste of labour and energy thereby ensue.

"So far as imported articles of food are concerned, the Board will continue to acquaint the local authorities concerned with the details of any instances of adulteration which may be reported by the Customs, so that proceedings may be promptly taken, if necessary, by the local authority of the district to which the adulterated goods are ultimately consigned and in which it may be presumed that they will be offered for sale.

"With a view to enable the Board to afford to local authorities any assistance in their power, either by correspondence or by personal conference, in the administration of the provisions of the Sale of Food and Drugs Acts, with respect to those articles of food which are brought under the purview of the Board as affecting the general interests of agriculture the Lords Commissioners of Her Majesty's Treasury have sanctioned the appointment of additional inspectors who will be happy, if so desired, to confer with your local authority as to the manner by which the law may be most efficiently enforced in your district, and in the meantime the Board would be pleased to learn at as early a date as may be convenient the result of the consideration by your local authority of the terms of their circular letters on the subject, and the steps which they are taking to give effect to the extended vigilance in the detection of fraudulent practices required by the Act which, as you are aware, comes into force on the 1st proximo."

### The Standard Oil Co.'s Boxing Day Giving.

At the Westminster Coroner's Court, Mr. John Troutbeck held an inquiry concerning the death of Helen Molloy, aged forty years, lately residing at 30, Oakham Street, Chelsea, where she was fatally burned on December 26th.

John Minter, the landlord of the house, said that on the night of Boxing Day he was called from a neighbour's house, and found the deceased standing in the passage with her clothing alight. A rug on the floor of her room was on fire, and near it lay the broken fragments of a paraffin lamp with a glass reservoir. The deceased told a policeman that she was trimming the lamp

when she accidentally overturned it, the spilled oil flaring up. She died in St. George's Hospital.

James Wade, an inspector of petroleum under the when County Council, stated that the deceased used the Tea Rose oil.

The Coroner remarked that, unfortunately, it was difficult to get cheap safe lamps. He hoped some means would be devised to render such terrible accidents as this impossible.

The jury returned a verdict of accidental death.

It is a pity coroner's talk such ignorant twaddle as Mr. Troutbeck did at this inquest. The Tea Rose is Rockefeller's murderous 73 deg. refuse oil which is not safe in the best lamps obtainable and which the public should boycott



## Legal.

### Another Unsound Condensed Milk Seizure.

AT Southwark Police Court, before Mr. Slade, on January 4th, Mr. Edwin William Beetham, of Water Lane, City, was summoned by Chief Sanitary Inspector Thomas, of Bermondsey, for having in his possession at the railway arches, Rouel Road, Bermondsey, in the occupation of the Farmers' Trading Company, 156 cases of unwholesome condensed milk. Mr. Horace Avory, barrister, instructed by Mr. F. Ryall, vestry clerk, supported the summons, and Mr. Beck defended. Mr. Avory stated that the 156 cases were seized on November 29th, and each case contained from four to six dozen tins. The seriousness of the case was realised when it was remembered that condensed milk was largely used for infants, for cooking, and in the manufacture of confectionery. Mr. Thomas said some of the milk had a nauseous flavour. He could not get the taste of it out of his mouth for hours, and part of it smelt very offensively. He did not find any wholesome milk in the 156 cases. He opened a number of tins before the magistrate, and when he punctured them the contents flew 2 ft. in the air in consequence of the gas that had generated. Altogether there were twelve different brands of milk. Cross-examined: He was told that the tins were on the premises to be sorted, and that some had been sorted. The tins appeared to be old stock from various shops. Mr. Beck, for the defence, contended that the goods were wrongly seized. He admitted that some of the tins were bad, but the mere possession of food which was unfit for food did not constitute an offence. This was a job lot of milk; a portion was fit for the food of man, a portion of it for the food of animals, and some was only good for manure. Defendant had acted in an absolutely bonafide and straightforward manner. Defendant, who said he was a broker and commission agent, in cross-examination stated that the great bulk of these cases were bought last spring and were left at a wharf and warehouse until they could be sorted. Mr. Avory: You knew when you bought them that they had been rejected as not being marketable as condensed milk? Defendant: I knew they would not sell over the counter. What was the ultimate object in keeping this milk? To sell for pig's food and manufacturing purposes. What do you mean by manufacturing purposes? For making caramels and pastries. For human food? Yes. Did you say when the order for condemnation was made that quite one-third of the milk was fit for manufacturing purposes? I said I believed that one-third was fit. The tins had not been examined, and that was merely my opinion. I understand Mr. Diprose paid you 3s. per case for the thirty cases. Supposing he had offered you 3s. for each of the other cases, would you have taken it? It is noise trying to trap me. If I was to say "No," you would say I was a fool. (Laughter.) Mr. Avory: You do me an injustice. It is not my reputation—however much I err sometimes—to be rude to witnesses. Mr. Harvey Nye, manager to the Farmer's Trading Company, which he said, dealt in grains and manure, stated that the tins were at the premises at Rouel Road merely for the purpose of sorting. Cross-examined: Some of the milk was sold for pig's food. Witness was not prepared to buy what he could not sell. Mr. Avory: That remark is a mercantile axiom. (Laughter.) Do you mean that some food was not even fit for pig's food? I cannot say. I would not run the risk—Of killing a pig? (Laughter.) Was some offered to a farmer for pigs' food and rejected? A farmer wrote that he did not require any more. Mr. Avory: A most polite farmer. (Laughter.) Stephen Diprose, provision merchant, of Redcross Street, said he engaged a Mr. Weir to select the thirty cases, and give instructions that only perfectly good tins were to be taken. Mr. Weir was assisted by two casuals. Mr. Avory: What do you mean by casuals? Witness: Men who walk about Tooley Street looking for a job. (Laughter.) Did Mr. Weir and his Tooley Street labourers—(laughter)—open any of the tins before they were carted away? No. Mr. Weir next gave evidence: He said he rejected about forty cases. He opened some of the tins before he took them away. Mr. A. Grist, sanitary inspector to St. Saviour's Board of Works, said he had been subpoenaed to give evidence. Mr. Slade: I am rather surprised to see you. You are usually on the other side. Witness stated that at the defendant's request he visited Mr. Diprose's premises and saw twenty-seven cases of milk. They were rather stale, but he considered them fit for food. Cross-examined: Witness added that there were 400 tins voluntarily given up and destroyed, but witness was of opinion that he could not have seized them. In the result defendant was fined £78 and £10 costs.

**MILK PROSECUTIONS.**—At Woburn Petty Sessions, William Beasley, carrier and milk vendor, of Woburn, was charged with having, on the 3rd December, sold milk which had not been of the quality and substance demanded by the purchaser. Defendant pleaded not guilty. Sergeant Mason, Inspector under the Food and Drugs Adulteration Act, gave evidence that he purchased a pint of milk from a man named Showler, who was selling for defendant. He divided it, in the usual way, into three parts,

sending one to Dr. Stevenson, the county analyst, who returned a certificate, now put in, that the milk was 15 per cent. deficient in butter fat. Defendant said he sold the milk just as he received it from a farm in Woburn. He added that on the day named he had known the Inspector was in the town, and that being so, it was hardly likely that he should tamper with his milk. The Chairman said the magistrates were not satisfied with the evidence before them, and adjourned the case for a fortnight for further testimony on either side.

At Falmouth, on January 1st, William Henry Toy, dairyman, was summoned for supplying to Supt. Beare, milk (according to Mr. B. Kitto, county analyst) adulterated with 8 per cent. of added water. Defendant, represented by Mr. W. J. Terrill, denied adulteration, contended that as the sample was taken at the end of his round the quality of the milk had necessarily depreciated in transit, and argued that cold weather had also a detrimental effect upon quality. Mr. Terrill submitted that because a sample happened to be under the consistency of good, rich milk, it did not follow that there had been adulteration. In the present instance the discrepancy was too small to justify a conviction, having regard to the conditions described by the defendant. A fine of 15s. and 20s. 6d. costs was imposed.

Before Sheriff Johnston in Forfar Sheriff Court, on January 4th, David Davidson, dairyman, Northampton, Forfar, was charged with having sold to Chief Constable Stirling, Sanitary Inspector, threepence worth of milk not of the nature, substance, or quality demanded, namely, new or sweet milk; and, further, with having sold threepence worth of milk from which a large proportion of its natural fatty constituents had been abstracted, so as to affect injuriously its quality, substance, and nature. Accused pleaded guilty to the first charge, and this was accepted. Mr. M'Nicol, who prosecuted, said that the analysis showed that the milk had been adulterated 11.76 per cent. with skimmed milk, or had been deprived of fat to an equivalent extent. Ten or 11 per cent. of the total quantity of natural fat, too, had been taken out of this milk. Mr. R. Freer Myles, on behalf of accused, said that Davidson had been going his rounds with his cart, and his supply of milk becoming exhausted he had purchased a small quantity—little more than one pint—from another milk-seller, and it was from this source of supply that the Sanitary Inspector got his threepence worth. The Sheriff said that the charge was one which in the interests of the public was always a serious one, because there was no substance which was more adulterated, and no substance the adulteration of which was more harmful than milk, upon which the children of the community had more or less to be brought up. He accepted the explanation given, and, looking to the fact that this appeared not to have been a premeditated offence, he imposed a modified penalty of 15s., with the alternative of two days' imprisonment.

At Birmingham, on January 5th, Thomas Morris, farmer, Stone, was summoned for supplying adulterated milk. Samples taken at Monument Road Station showed 27 per cent. and 16 per cent. of water more than the natural quantity. The defence put forward by Mr. Sproston, of Newcastle-under-Lyme, was that the milk had been tampered with en route. The magistrates remarked that the defendant was perhaps more sinned against than sinning, but must be held responsible, and a fine of £1 and costs was inflicted.—Thomas Morris Latimer, baker and confectioner, 235, Coventry Road, was fined 40s. and costs for selling milk 24 per cent. deficient in fat.—Thomas Malone, of 36, Greenway Street, was fined 10s. and costs for a like offence.

At Leeds, on January 5th, Dennis Dixon, farmer and wholesale milk dealer, Belle Isle, Middleton, was charged before the Stipendiary Magistrate (Mr. C. M. Atkinson) with selling a gill of new milk which the City Analyst (Mr. Thomas Fairley) certified to contain 10 per cent. of added water. Mr. C. C. Jolliffe (Deputy Town Clerk) prosecuted, and Mr. E. H. Foster represented defendant. On the 1st of December Mr. W. B. Walker, Inspector under the Food and Drugs Act, obtained a sample from defendant whilst he was delivering milk to a retailer in Hunslet. Immediately afterwards he went to defendant's farm and obtained a sample of milk from one of the cows just milked. Whilst the former contained added water, the latter was certified to be of excellent quality. Mr. Foster submitted that the first sample was taken when the can containing it was nearly empty, and was therefore not likely to be of such good quality as the rest. It was stated that defendant had been twice previously convicted, but as the latest case was nine years ago, Mr. Atkinson decided to regard the present as a first offence. He remarked that under the Act, which came into force on January 1st, a person convicted a third time was liable to a fine of £100, and if there were fraudulent intentions, he might be sent to prison for three months without the option of a fine. He ordered defendant to pay a fine of £5.

At Swindon, William Hancock and Archie Hancock, milk retailers, of Station Road, New Swindon, were summoned for selling skimmed milk containing 5 per cent. of added water. Mr. Bevir prosecuted, and Mr. Withy appeared for the defence. Mr.



Sam Smith gave evidence, and produced Dr. Dyer's certificate. In answer to Mr. Withy, he said he did not think defendants were responsible for the state of the milk, which they had bought of another man in the town. The Bench allowed the case to be withdrawn on payment of the costs.—Henry Gilling, of the Transfer Creamery, New Swindon, appeared on two summonses for selling skimmed or separated milk not of the nature and quality demanded. Mr. Smith said he found defendant's man delivering two churns of milk at Messrs. Hancock's premises, and took a sample from each churn. Dr. Dyer's report was to the effect that the samples submitted to him contained 5 per cent. and 10 per cent. of added water respectively. Mr. Withy said defendant's explanation was that in the process of separation he had foolishly turned steam into the milk for the purpose of heating it. Defendant was fined 5s. and 5s. costs.—Frank Williams, manager for the Challow Park Dairy Company, was summoned for selling new milk which was not of the nature and quality demanded on November 12th. Mr. Withy defended. Mr. Smith said Dr. Dyer's certificate was to the effect that the milk contained at least 5 per cent. of added water. In cross-examination, witness said two samples of the company's milk which had been previously taken had been found to be good. Mr. Withy assured the Bench that the milk was not tampered with after it came into his clients' possession. Fined 5s. and costs.

At Wednesbury, on January 2nd, Samuel Harper, Ridding Lane, was summoned for selling milk adulterated with 12 per cent. of water. The defence was that the milk was sold as purchased; but Mr. Van Tromp, inspector, stated that a sample of milk was on the same day taken from the wholesale dealer who supplied defendant. In imposing a fine of £5, and £1 ls. costs, the Stipendiary magistrate characterised it as an exceptionally bad case.

At Auckland, on January 4th, Mr. M. A. Thompson, local foods and drugs inspector, proceeded against Wm. Webb, of Heighington, for having sold at Shildon, a pint of milk which, on being analysed, was found to contain 12 per cent. of added water. A fine of 10s. and costs was imposed.

At Clerkenwell, on January 6th, Elias Jones, 46, South Street, New North Road, was summoned for selling milk containing six per cent. of added water. John Jones, of the same address was summoned for the same offence. The case was adjourned last week for the purpose of having a sample of the milk analysed at Somerset House. The milk was purchased in the street from John Jones, but it was contended by Mr. Bramall for the Islington Vestry that the defendants were in partnership. John Jones said he was responsible, his "round" being distinct from that of his father. Mr. Bros ordered John Jones to pay £3, and 12s. 6d. costs. The summons against Elias Jones was dismissed.

**BUTTER AND MARGARINE PROSECUTIONS.**—At West London, on December 29th, Charles Lockyer, of 119, Dawes Road, Fulham, S.W., appeared to answer two summonses, one in respect of butter sold containing 95 per cent. of margarine, and the other, under the Margarine Act, for not using a proper wrapper. F. H. Sims, the seller of the article, was also summoned. The purchaser, employed by Inspector Manning, asked for some tennepenny butter, which was found to contain 95 per cent. of margarine. Lockyer had five shops in different places. Sims admitted the offence, and said he did his best, because butter was dear. He also admitted not carrying out his employer's instructions to acquaint purchasers with the nature of the article sold. Mr. Lane, Q.C., remarked that it was a bad case, but thought the employer was not a consenting party. He fined the employer on the first summons 40s., with 12s. 6d. costs, and on the second 20s., with 2s. costs. He fined Sims £3 on the first and 40s. on the second, with 2s. costs in each.—Edward Byrne, of Clyde Buildings, Fulham, was summoned for selling butter containing 25 per cent. of margarine. As it was a first offence, Mr. Lane imposed a penalty of 40s., with 12s. 6d. costs, and in the case under the Margarine Act in respect of the wrapper 20s., with 2s. costs.

At Kensington, on January 2nd, John Howell, 57, St. Ann's Road, Notting Hill, W., was summoned for selling as butter an article containing 85 per cent. of margarine, and also for serving it in a wrapper not bearing the word "Margarine." Mr. Stephens, on behalf of the vestry, stated that a deputy of the inspectors entered defendant's shop and asked for half a pound of shilling butter. The deputy was served by the defendant himself, the article being handed to him in a plain wrapper enclosed in a paper bag marked "Pure butter." The defendant kept a large shop in a rather poor neighbourhood, and appeared to do a good trade. Cheap "margarine" at 4d. per lb., for instance, contained about 95 per cent. of margarine, and that at 6d. per lb. about 85 per cent. of margarine, so that it was evident that the defendant would make a large profit if he sold the article in question as shilling butter. Mr. Bird (magistrate): This looks rather bad. If he were to continue to sell the article as shilling butter he would make 6d. or more on every pound that he sold. He will be fined 40s. for selling the article as butter, and 10s. for serving it in a plain wrapper, with costs.

At Worship Street, London, on December 29th, William Davis, provision dealer, of Paul Street, Finsbury; John Jenkins, New Inn Yard, Shoreditch; David Evans, 19, Whitmore Road,

Hoxton; and Thomas Walter, of 38, Nile Street, Hoxton, answered summonses by the sanitary authority of St. Leonard, Shoreditch, for offences under the Food and Drugs Act. There were two summonses against Walter, one for selling milk deficient in butter fat and with 8 per cent. of added water, and the other for selling as butter an article which was 81 per cent. margarine. Fines amounting to £8 5s., with costs, were imposed on Walter; Jenkins was fined £4, and 10s. 6d. costs in respect of the sale of butter; Davis £3, and 12s. 6d. costs for milk; and David Evans ordered to pay 12s. 6d. costs only, it being proved that the milk he sold was handed to the purchaser at the moment it was delivered by the wholesale dealer, and therefore presumably in the state in which it came into defendant's possession. Mr. Cluer said it was within his experience that the mass of adulteration was done by the wholesale dealers, and retailers ought to combine and force them to give a guarantee which would protect the retailer.

At Portsmouth, on January 1st, Samuel George Burden, 84, Somers Road, Southsea, was summoned for selling butter containing 71.68 per cent. of foreign fat. Mr. Brutton urged in mitigation that the mixture had been accidentally sold as butter in consequence of an assistant having temporarily placed a small quantity of it on the butter platter. Several samples had been previously taken at his client's shop for analysis, and this was the first time the defendant had been found in fault. Evidence was called to support the advocate's statement, but the Chairman said the Bench would inflict a fine of £10 and costs. He commented on the similarity of the defences set up in these cases, and said the magistrates were determined to put down such practices as selling "mixture" for butter.—Charles Frederick Smith, grocer, Jubilee Stores, 87, Albert Road, Southsea, was also summoned, the sample in this case being certified to contain 76.31 of foreign fat. Mr. J. E. Pink defended. On December 2nd last, an agent for Inspector Lovelock purchased a pound of tennepenny butter. She was served from what was labelled "Delicious Is." Defendant said the article sold was always sold at 1s., and a mistake had been made. It ought to have been used for cooking purposes only. The Bench said they could see no distinction between this case and the last. They were determined to protect the public from such mistakes, and a fine £10 and costs would be inflicted.

At Leek, Thomas Henry Morris, grocer, trading at Congleton as the Macclesfield Tea Company, was summoned for not having the necessary label on margarine at his branch shop at Bradley Green. Arnold Walley was also summoned. Mr. Morris stated that all the necessary margarine labels were supplied to his manager, who he alleged, had neglected to carry out his instructions. Mr. Morris was fined £2 and costs, and the manager 1s. and costs.

At Bray (co. Wicklow). Sergeant Connor summoned George Edwardes, Greystones, co. Wicklow, for having margarine exposed for sale in his shop without a label. The Sergeant stated that there was some butter exposed for sale on the counter at various prices, including a sample at 10d. per lb. He told the assistant to give him a pound and a half of the tennepenny butter, but the latter replied that it was a mixture. There was no label on it, but there was a label near it on the stand which was not visible, and it was so arranged that it could be turned round on a swivel. Anyone entering the shop could not see the label. Immediately he had purchased the stuff the label was turned round on the swivel and could be seen in that position. The analyst's certificate showed that the sample was almost entirely composed of margarine. Defendant said his margarine account for two months amounted to £4 19s. 6d., while his butter business for the same period realised £137 19s. 7d. This mixture was kept merely for supplying his customers for cooking purposes. He always kept a stand principally for margarine, which was labelled, but on October last this stand was broken. He gave an order to a man named Newman to replace it, but finally it had to be obtained from Manchester, as it could not be got in Dublin at the time. He was not at home on the day that the sergeant called, but he had given instructions to his assistants to state what the margarine was kept for. The sergeant said when he bought the margarine it was not put in a paper with the margarine label. The defendant said he had wrappers at the time with the word "margarine" stamped on them. He could produce the invoice for them from Messrs. Cherry and Smallbridge. A fine of £5 and costs was imposed. Mrs. Daniel Butler, Back Street, Bray, was summoned for a like offence. The sergeant said he found three lumps of what apparently was butter on the defendant's counter, but when questioned the assistant said it was margarine. They were not labelled. The defendant was fined 10s. and costs.—Thomas Butler, Main Street, Bray, was summoned for having sold margarine as butter, and for having exposed margarine for sale without having it labelled. The sergeant said he found five or six large pieces of what appeared to be butter on the counter, each marked at 1s. 1d. a lb. He took a sample of each. One sample was returned as containing a large percentage of fats foreign to butter. Mr. Hanmore, who appeared for the defendant, said the assistant who sold the sample did not apparently know that it was margarine. Defendant was in Dublin that day, and had sent down the stuff by the eleven o'clock train, so that there was no time to label it, as it had only been just taken out of the coolers. The sergeant said there was a previous conviction against the defendant in the year 1894. A fine of £10 with costs, was imposed in each case.



At North London, on January 9th, Mr. H. T. Tiddeman, solicitor to the Hackney Vestry, prosecuted a shopkeeper named Alfred Ballard, 41, Wick Road, for stealing half a pound of butter from one of their sanitary inspectors, named Frederick W. Morley. Mr. Tilley (for Mr. Romain) defended the accused. The evidence was that the Inspector, on a recent Sunday morning, sent a female assistant to purchase a half-pound of shilling butter, and that after the purchase was completed the inspector walked in and said it had been purchased for the purpose of analysis under the Food and Drugs Act. The defendant snatched up the butter and exclaimed, "You have no right to come here on a Sunday morning. You have not to work seven days a week, as I have." There was something said about putting it on the fire, and the inspector and his assistant never saw anything more of it. The defendant appeared not to care about what he had done, and told the inspector his name and said he might summon him if he liked. Mr. Fordham told the defendant he was liable to a fine of £20, or three months' imprisonment. Mr. Tilley submitted that the butter was not the property of the inspector, because it was bought by another person and not with his money. Mr. Fordham: The assistant was the agent, and the inspector gave his own money for the time being to purchase it. Mr. Tilley then asked the magistrate to take into consideration the smallness of the defendant's shop and his momentary irritability at being pounced upon on Sunday. Mr. Fordham fined the defendant 20s. and £2 2s. costs.

James Watson, grocer, Beech Grove, Charlton-cum-Hardy, was summoned at the County Police Court, on January 4th, for selling a sample of butter, which on analysis, was found to contain 10 per cent. of water, 75 per cent. of fats other than butter, and 40 grains of borates. Police Inspector Jones visited the shop of the defendant on December 7th and purchased a pound of butter at 1s. 1d., at the same time inquiring if there was any margarine for sale, which was answered in the negative. The assistant in the shop told the inspector that there was no sale for margarine in that district. Mr. Chapman, who prosecuted, submitted that the analysis made by the County Analyst showed that there had been adulteration of a very gross character. Mr. Anderson, on behalf of the defendant, pleaded that the whole transaction with the inspector was a mistake on the part of the assistant. The Stipendiary (Mr. Yates) said there was no doubt that what Mr. Jones had bought for butter was nothing more or less than inferior margarine worth 4d. a lb. instead of 1s. 1d. A fine of 40s. and costs was imposed.

A summons came before the Oldham magistrates on January 4th, under which Patrick S. Simmons, was charged with selling margarine as butter. Mr. R. M. Sixsmith, solicitor, prosecuted on behalf of the local Grocers' Association, and there was no appearance for the defendant. Police Constable Longson proved having left the summons at the defendant's place of business, 145, Manchester Street, Oldham. Mr. Sixsmith asked the Bench to proceed with the case in the absence of the defendant. There was, he said, a previous conviction against the same shop, which is known as "The Irish Butter Market." Last year a man giving the name of Haggerty was fined £10 and costs for a similar offence in the same shop. That fine was paid, and up to this case being brought the same sign had remained over the shop. A short time ago, the Bench would remember, the Sanitary Committee's Inspector bought samples there, and when the man learnt that they were for analysis he snatched them away. A summons was applied for in that case but was refused. The Clerk pointed out that the magistrates might be fining a fictitious man. He thought they would do better to proceed against the assistant who actually sold the stuff. It might turn out that they would have the principal then. Mr. Sixsmith said he did not think so. His clients had been for eighteen months inquiring and watching, and now that they had got a case it would be hard if the man could simply flirt his fingers in their faces and tell the Association to lie down. The Clerk said the proper course for the magistrates to pursue was to issue a warrant—not go on to a conviction. The Chairman (Mr. Alderman Waddington) said that, against the advice of the clerk, they would go on with the case now. Mr. Sixsmith said that from information just supplied to him he thought it would be better to adjourn the case for a fortnight. This course was thereupon taken.

At Huddersfield, on January 2nd, Clara Shaw, Royal Hotel, Linthwaite, was summoned "for having exposed for sale by retail a quantity of margarine not properly labelled." Inspector Newbold stated that on November 21st he called at the defendant's house and found her supplying customers with margarine from a bag. The price charged was 9½d. per lb. He spoke to a woman who had just purchased some, and said, "What have you been buying?" She replied, "butter." He then spoke to the defendant about the article she was selling, and she replied, "Oh, it isn't right butter, you know," and she drew his attention to the word "Margarine" printed on the bag. She declared that she made no profit out of the article, and simply sold it at cost price to oblige customers. Mr. Hutchinson, who defended, submitted, as a point of law, that there had been no "exposure" within the meaning of the Act; in fact, there had been no evidence of exposure adduced at all. The Bench, after a consultation, dismissed the case, stating that they were of Mr. Hutchinson's view.—A similar charge, arising out of the same circumstances, was then preferred against James William Hiley, wholesale grocer,

Huddersfield, from whom Mrs. Shaw purchased the margarine. The Bench asked if the evidence was the same as in the former case, and on receiving a reply in the affirmative they intimated that the charge had better be withdrawn. This was done. Mr. Wardlesaid there was a second charge against Mr. Hiley, which he could not withdraw, namely, that of having as the consignee sent the margarine to Mrs. Shaw in such a way that the package could not be marked "Margarine" on "the top, ends, or sides," as required by the Act. There was no dispute as to the facts. Inspector Newbold admitted, however, that the word "Margarine" was printed on the two sides of the bag. He further admitted that if he had looked at the sides he could have seen it. For the defence it was contended that the requirements of the Act had been duly complied with. The Bench decided to dismiss the case, but granted leave to appeal.

At Lambeth, on January 2nd, Messrs. D. Morgan and Co., of High Street, Peckham, were summoned by Inspector Groom, on behalf of the Camberwell Vestry, for infringing the provisions of the Margarine Act by delivering margarine to a purchaser otherwise than in a properly printed wrapper. There was a second summons against the defendants under the Food and Drugs Act for selling as butter an article which proved upon analysis to be margarine. Mr. G. W. Marsden, solicitor to the vestry, supported the summonses; and Mr. Ricketts defended. At the close of a long hearing Mr. Hopkins fined the defendants £20 and £3 3s. costs on the margarine summonses, the other summonses being withdrawn.

At Wednesbury, on January 2nd, James Fletcher, Rowley, a manager of Messrs. Winns, Limited, Darlaston, was summoned for exposing margarine for sale unlabelled at a shop in Church Street. Mr. Van Tromp appeared to prosecute, and Mr. A. Slater defended. It was admitted that the margarine was labelled 6d. per lb. Mr. Slater pleaded guilty to the charge, and the stipendiary fined defendant £1 and costs.

\* At Moneymore Petty Sessions, on Jan. 3rd, Sergt. Bell charged. Joseph A. Wensley, provision merchant, Moneymore, with (1) having in his possession for the purpose of sale, and exposing for sale, margarine which was not duly labelled; (2) forwarding by public conveyance margarine which was not duly labelled; (3) selling margarine as butter; (4) selling margarine, warranting same to be butter. The complainant deposed to visiting the defendant's shop and obtaining a sample of what appeared to be butter. Professor Leebody certified this was margarine. At Moneymore Railway Station the sergeant saw several boxes consigned by the defendant to Belfast customers labelled "farm produce." He took the address of the consignees, and communicated with them. One of them, a Mr. Wright, of Belfast, sent him a sample, which he (complainant) had got analysed, and the certificate of the analyst showed that it was margarine. Mr. George B. Wright was then called. He said the stuff was consigned to him, and he substantially corroborated the complainant's statement. The complainant was cross-examined at length, and, in reply to questions, he said the defendant had told him that the samples he took were margarine, and not butter. Defendant stated that he dealt in margarine in the wholesale trade only. He also dealt in butter. He kept the margarine in a store, but on the date of the summons he brought it into the shop, and his assistant, in a mistake, put up the margarine instead of the butter for three of his customers. When he discovered the error it was then too late to stop the consignment, which had left by train for Belfast, but he wrote to a Mr. Campbell in Belfast, asking him to request the consignees to return the margarine, and stating that he would send on the butter. He explained that a mistake had occurred, and requested his friend to put the matter before the parties in its proper light. Mr. Campbell was examined for the defence, and said he had received a letter from the defendant to the effect given above. Sergeant Bell said the defendant was fined £10 for a similar offence in Belfast on the 12th ult., and he proposed to hand in a newspaper report in verification of the statement. This, however, was disallowed by the Bench. After a long consultation the Court dismissed the first summons, as there was a doubt about the way of taking the samples, and in the other three cases they imposed a fine of £5 in each, making in all £15 and costs.

At Woolwich, on January 4th, George Payne, of High Street, Woolwich, was summoned for selling "butter" adulterated with nine parts of margarine in every ten, was fined 10s., and 12s. 6d. costs.—Mrs. Kate Snede, of Beresford Street, Woolwich, similarly summoned, was fined 20s., and 12s. 6d. costs. Colonel E. Hughes, M.P., prosecuted for the Woolwich Local Board.

At Birmingham, on January 5th, Walter Cook Tibbitts, of 100, Wheeler Street, pleaded guilty to selling margarine without labelling it as such, and when "butter" was asked for. He maintained that it was a mistake on the part of his assistant, and was fined £5 and costs.

At the North London Police Court, on January 5th, Mr. Tiddeman attended before Mr. d'Eyncourt to prosecute several tradesmen in the Hackney district for selling adulterated butter. The first defendant was John Webb, a grocer and provision merchant of Chatsworth Road, Clapton, who was accused of selling as butter a mixture containing 90 per cent. of foreign fat, and consequently not being of the nature, substance and quality



demanded. A young woman employed by one of the vestry inspectors went into the shop and asked for half a pound of shilling butter. A female assistant in the employment of the defendant served the woman with about two-thirds of a pound of a mixture which was found to be inferior margarine. Mr. C. V. Young, who defended, said that the defence was that "a half-pound of shilling" was asked for, and the assistant took that to mean shilling mixture. The mixture, however, was only sixpence a pound, and instead of half a pound of butter being given, a pound of the mixture was served, so the customer got value for the money. The defendant gave evidence on his own behalf, and said that he had been in business 20 years, and never had a complaint against him before under the Adulteration Acts. Some six years ago he did a very large butter business at his shop in the Chatsworth Road, but a curious kind of competition arose which was known as the "dollop" system. People would buy butter or mixture, and receive a "dollop" overweight. As this system was practised at shops in the neighbourhood his business began to fall off, and he had to discharge the butter man. Subsequently he undertook to meet the "dollop" system by giving double weight. Thus, if anyone asked for a "pound of shilling," he gave 2lb. of mixture. The wholesale price of this mixture was 48s. per cwt. Customers liked this system, and his trade began to revive. They knew that they received margarine, but they asked him not to label the papers with the margarine stamp. Mr. d'Eyncourt: Have you any of your customers here to prove this? No. Mr. d'Eyncourt said this was the most unblushing case which had ever come under his notice. If the custom mentioned by the defendant did exist, it was a very wrong one, and ought to be put down at once. He fined the defendant the full penalty of £20, with 12s. 6d. costs, or, in default of distress, two months' imprisonment. James Hutchins, of Glyn Road, Clapton, and John Jones, of Wick Road, were fined respectively £5 and £0 each, with 12s. 6d. costs, for selling margarine as butter.—Mr. Tiddeman announced that the Hackney Vestry now had twelve Inspectors acting under the Adulteration Acts, so that samples were taken much more frequently.

At Birmingham, on January 5th, before Messrs. Fisher and Ryland, at the Victoria Courts, Harriett Preece, of 88, George Street West, was summoned for selling butter adulterated with 0.9 per cent. of boric acid. Defendant pleaded that she bought the butter from the Home and Colonial Stores, Cape Hill, and that an assistant assured her it was absolutely pure. The magistrates came to the conclusion that the defendant used due diligence and that the transaction was bona-fide. They therefore dismissed the case.

**WHISKY PROSECUTION.**—At Forfar, on January 3rd, before Sheriff Johnston, Emma Nevay Masterton or Porter, Stag Hotel, Castle Street, was charged with having, on Saturday, December 2nd last, within the Stag Hotel, sold to Chief Constable Stirling, Sanitary Inspector, a quantity of whisky more than 25 degrees under proof, in contravention of the Sale of Food and Drugs Act. Accused pleaded guilty. Mr. McNicoll said that the whisky in question was 26 degrees under proof. Mr. J. S. Gordon, solicitor, on behalf of Mrs. Porter, stated that she brought spirit 9.5 over proof, and was in the habit of mixing one gallon of water in 3½ gallons of spirit, thereby reducing the strength of the whisky to something like 15 degrees below proof. She strictly adhered to her rule in this case, but the explanation was that the whisky was mixed in a glass jar on the Friday night, and on the Saturday morning, when the Chief Constable called, the whisky had not been properly stirred. The public would not be prejudiced, for with the weak whisky thrown off in this way, what was left would be much stronger. Mr. Stirling had asked for whisky at 7d. a gill, and he could not have known if she had taken the sample out of a bottle at 8d. a gill. The offence was a technical one, and was the result of an accident. The Sheriff said he did not think it was a serious offence, but at the same time he was bound to deal with it. He imposed a modified penalty of 10s., with the alternative of two days' imprisonment.

**COFFEE PROSECUTIONS.**—At Witham, Caroline J. Doole, was summoned for selling coffee adulterated with 65 per cent. of chicory. Sergeant Laver stated that he visited the defendant's shop and asked for half a pound of coffee. The defendant's sister-in-law, who served, asked what price, and he answered, "the cheapest." She then gave him half a pound at 1s. per lb., and witness forwarded a sample to the public analyst, who certified that it was adulterated with chicory to the extent of 65 per cent. The witness added that when he served the summons the young lady told him that she forgot to mention that it was a mixture which she sold him, and the tin was labelled accordingly. The defendant had not been in the shop long. A fine of 1s. and costs was imposed.

At Birmingham, on January 5th, Albert Edward Benson, 29, Guest Street, who was summoned for selling as coffee a substance which contained 50 per cent. of chicory, pleaded ignorance. He was "in the coal trade," he said, but had had a grocery business two months. The Chairman thought he had better go back to the coal trade; perhaps he would know more about it. In the meantime he would have to pay a fine of 20s. and costs.

**MINERAL WATERS DEFICIENT IN POTASH.**—At Swindon, the cases mentioned in *Food and Sanitation*, December 9th, page 594, came on for the adjourned hearing. William Evans,

druggist, of Market Street, New Swindon, was summoned for selling a syphon of potash water not of the nature and quality demanded on October 3rd. Mr. H. Bevir prosecuted on behalf of the Wilts County Council, and reminded the Bench that the case had been adjourned to enable Dr. Bernard Dyer (public analyst for Wilts) and Mr. Stoddart (analyst to the city of Bristol) to make a joint examination of the water. Dr. Dyer said he had examined the sample with Mr. Stoddart, and they agreed that it was practically destitute of potash, but contained soda in the proportion of five grains to the pint. Mr. Henderson (Bristol), for the defence, suggested that in view of the divergency of opinion on the part of the analysts, as disclosed at the last hearing, the magistrates ought not to convict. The Chairman said he fully understood that the case was to stand or fall by the final analysis, which it was thought should take the place of an analysis by the Somerset House authorities. The Bench were unanimous in convicting, and imposed a fine of 1s. and costs.—Joseph Henry Green, chemist, of Wood Street, Swindon, was summoned for a similar offence of October 3rd. Mr. Henderson, who appeared for the defence, pleaded guilty, and a like penalty was inflicted.—The Chemists Aerated and Mineral Waters Association, Limited, of Giffard Street, Caledonian Road, London, were summoned under the Merchandise Marks Act for applying a false trade description to a syphon of aerated water supplied to William Evans, of Swindon, on September 12th. Formal evidence was given for the prosecution, it being stated that the label on each syphon represented that the water contained five grains of bi-carbonate of potash to each pint. Mr. Henderson said that by some inadvertence a potash water label had been placed on a bottle of soda water. There was no object in wilfully adopting this course, as the prices of the two waters were almost identically the same. Richard Robinson Groom, the company's Bristol and Birmingham manager, said written instructions were given to the foremen with the object of securing the proper preparations of the various waters. He could only suggest that the presence of the potash water label on a syphon of soda water was due to a mistake. After the Bench had consulted the Chairman said: We find in this case that soda water was sold in place of potash water, and we are advised that on that finding we cannot convict. The Clerk: In other words that no false trade description was applied to the goods. The Chairman, in answer to Mr. Bevir, said the Bench would state a case if it was thought desirable to take the matter elsewhere. There was a second summons against the company for applying a false trade description to a syphon supplied to Joseph Henry Green. Dr. Dyer said the sample which he examined in conjunction with Mr. Stoddart, was practically destitute of bi-carbonate of potash, but contained two grains per pint of bi-carbonate of soda. Mr. Groom, giving evidence for the defence, suggested that the deficiency arose through insufficient mixing in the tank, with the result that the water at the top was weaker than that nearer the bottom. The Bench imposed a fine of 10s. and costs.

**PROSECUTION FOR COPPER IN PEAS.**—At Northampton, on January 1st, John Moring, greengrocer, 2, Barrack Road, Northampton, was summoned for selling a bottle of peas not of the nature, substance, and quality demanded, on December 8th. Moring was further summoned for selling a bottle of preserved peas mixed with salt of copper, and injurious to health, on December 8th. Mr. Shoosmith prosecuted on behalf of the Town Council, and did not in any way dispute the statement of the defendant that the peas were sold just as received by him from a London firm. He said the prosecution was undertaken, more than anything else, to show the public the risks they ran in eating foods which had been treated as these particular peas had been treated. Inspector White proved the purchase of the peas from the defendant. Dr. R. Ross, one of the borough analysts, deposed that the peas contained 1.1 grains, which was equivalent to 0.77 grains of copper, or 1.93 grains of anhydrous copper sulphate per pound that being equivalent to 3.03 grains of sulphate of copper to the pound. The peas were perfectly sound. Sulphate of copper had always been considered an irritant in anything in large quantities, and in small quantities its action was equally bad if continued for some time. Anybody eating the peas daily would be taking in a dose of copper which in the long run would be likely to prove injurious. The copper was added to the peas to give them a better colour, but considerably more than was required for that purpose was in the bottle. Witness did not consider the copper admissible at all. Mr. Lee F. Cogan, medical officer of health, deposed that all sorts of copper were poisonous. A dose of sulphate of copper was from a quarter to two grains, and as an emetic five to ten grains. In the bottle there was more than a maximum dose. The Magistrates' Clerk pointed out that the only defence he could make was that he did not know the article was adulterated, and that he could not, with reasonable diligence, obtain that knowledge. Defendant: I did not know. The Magistrates' Clerk: The law expects you to go a step further and use reasonable diligence to find out. Did you do anything? Defendant: No. The Bench accepted the statement of the defendant that he did not know of the adulteration, and considered that the case having been made public the ends of the prosecution would be served by the infliction of a fine of 10s., including costs. Mr. Shoosmith asked the press to state that the public in buying preserved vegetables are always safer in buying those of a paler colour rather than those of a brighter.



**WEIGHING PAPER WITH SUGAR.—THE FOLLY OF NOT BELONGING TO THE GROCERS' FEDERATION.**—At Wednesbury, on January 2nd, James Hicken, grocer, Pinfold Street, Darlaston, was summoned by Mr. Van Tromp, county inspector, for having in use an unjust scale. Defendant pleaded not guilty. Defendant whilst weighing sugar in half-pounds, had a piece of paper under the bowl of the scale into which the sugar was poured, sufficient to make  $7\frac{1}{2}$  drams against the purchaser. On re-weighing some of the packages of sugar made up it was found that they were  $2\frac{1}{2}$  drams light, making a total deficiency of sugar of from 9 to 10 drams in one half-pound. Mr. Van Tromp said when he called the defendant's attention to the offence, he replied that the sugar trade was cut very fine. Defendant: I said I only did what was done by all other members of the trade. The Stipendiary said it was really a case of weighing paper with sugar, and in a previous case he held that it was illegal to weigh paper with sugar, and the judges, on appeal, reversed his decision and quashed the conviction. He should like to know if it was the intention of Mr. Van Tromp to fight the point over again. Mr. Van Tromp replied that the proceedings had been instituted under another section of the Act. Since the decision referred to by the Stipendiary had been given, Justices Ridley and Darling, sitting in the Queen's Bench Division, had decided that where a piece of paper had been placed under the scoop an offence had been committed. They expressed no opinion as to whether the paper might be placed in the scoop, remarking, however, that that point had not arisen in the case before them. The Stipendiary said if that was so, it was quite evident that the judges were coming round to his way of thinking. Before giving his decision, he should like to consider the cases brought before the Court of the Queen's Bench. Defendant: I have no fraudulent intention. The Stipendiary: I do not think you have. Are you connected with a grocers' association in this district? Defendant: We have no association in this district. I think it has been broken up some time. The Stipendiary: That is very unfortunate. This is a case in which the legal points should be properly argued. Defendant: I think so, too; I will see what I can do. The Stipendiary: I will adjourn the case for a fortnight, and in the meantime I will look up the points and also the decision of the judges.

**CAMPHORATED OIL PROSECUTION.**—At Lambeth, on January 2nd, Annie Wolff, a medical herbalist, of Choumert Road, Peckham, was summoned by the same vestry for selling camphorated oil, which proved upon analysis to only contain 6·7 of camphor, being a deficiency of 74 per cent. of camphor to the prescribed quantity of olive oil. The defendant was represented by Mr. Philip Conway, who said his client had only had the business 18 months, and made the oil in accordance with a recipe left by the previous owner of the business. Mr. Hopkins fined the defendant 20s. and 17s. 6d. costs.

**SWEET SPIRITS OF NITRE PROSECUTION.**—At Burton police court, on December 29th, Samuel Rolls, grocer, of Henry Street, was charged with a breach of the Food and Drugs Act, in selling, on November 23rd, sweet spirits of nitre 92 per cent. deficient in ethyl nitrate. Mr. Van Tromp prosecuted, and briefly opened the case. William Grassam, assistant to Mr. Van Tromp, deposed that on the day named he visited the shop of the defendant and purchased from his wife  $3\frac{1}{2}$  ozs. of sweet spirit of nitre, for which he paid 10½d. He told Mrs. Rolls he had brought it for the purpose of analysis, and divided it in the usual manner. The bottle from which Mrs. Rolls gave him the nitre was labelled "Spirit of nitre." Mr. Van Tromp deposed to receiving two samples of nitre from the last witness, and said he delivered one of them to Mr. E. W. F. Jones, Staffordshire County Analyst. Mr. Jones said he received on the 24th of November one sample of the nitre from Mr. Van Tromp, and found it deficient to the amount stated in the summons. The article was a weak one originally, and contained 19 per cent. of added water. It would be of no use whatever for the purpose for which it was intended. Defendant said he sold the spirit as he brought it, and the manufacturer had written and told him that the condition of the article was due to evaporation caused by the repeated removal of the cork. Fined 20s. and the costs £1 12s.

At Alcester, on January 1st, Edward Joseph Sill and Sylvester Sill, grocers, Bidford, were charged with selling sweet spirits of nitre which was not of the nature, substance, and quality demanded, at Bidford on November 15th. The first-named attended, and put in a plea of not guilty. Inspector Bennett stated that he visited defendants' shop at Bidford, and asked for 4 ozs. of sweet spirits of nitre. One of the assistants in the shop served him, and charged him 1s. 4d. for the quantity supplied. Dr. Bostock Hill, the County Analyst, certified that the sample was 90 per cent. deficient of its acting ingredient, viz., ethyl nitrate. Cross-examined by defendant. Witness said he had had articles of food, such as butter, &c., from their shop, and these had been all right. Defendant made a statement to the effect that they did not do a large trade in chemistry. They purchased 4 lbs of spirits of nitre, and there was now only a small quantity left. He found that the stopper in the bottle was not the proper one, and the only reason he could assign for the deficiency was that the ethyl nitrate had evaporated. It was of a very volatile character, and almost impossible to keep it up to its standard. Defendants were further

charged with selling tincture of rhubarb which was deficient of glycerine, at the same time and place. Mr. Bennet said he purchased 4 oz. of tincture of rhubarb, and divided the same into three parts. Subsequently he had a certificate from Dr. Bostock Hill to the effect that the sample was deficient by 10 per cent. of glycerine. Defendant mentioned that the tincture of rhubarb was bought by them before it was required that the same should contain glycerine. In reference to the first case the Bench considered the spirits of nitre should have been kept in a properly stoppered bottle, and a fine of 10s. and costs was imposed. The second charge was dismissed.

## Correspondence.

### TUBERCULOSIS—PREVENTION OR CURE.

TO THE EDITOR OF *Food and Sanitation*.

DEAR SIR,—No doubt many of your readers have noted with satisfaction that the new year is to be marked by the holding of a British Congress to discuss the subject of Tuberculosis and its treatment. I take it that there is such a widespread interest in the subject, that if I bring before you such a reform in diet as would save us from the danger of contracting tubercular disease, it will at least be worthy of your consideration.

At a meeting which was held recently, Lord Derby said that those interested in preventing the spread of consumption had to contend against the enemy of ignorance, an assertion which contains a great deal more truth than Lord Derby may realise.

The opening of Sanatoria is a step greatly to be applauded, and one which will be most helpful to those persons who have already contracted this fell disease; but they will be of no preventive value, and their establishment is therefore only to be regarded as a laudable attempt to cure, not to prevent disease. But how hopeless this so-called remedy is, while future occupants are being guaranteed by our dietetic habit of partaking of food products from animals tainted with disease. In case I may be accused of exaggeration, I will mention that when the Queen's herd was carefully tested, it was found that 95 per cent. were tuberculous. If that were the state in the Royal Byre what must be the condition of cows kept by the ordinary farmer?

That flesh meat does not form a necessary part of man's diet is a fact which has been proved in the most practical manner by all sorts and conditions of men from time immemorial.

The open air treatment of cattle (proposed by Lord Templetown, President of the Agricultural Union) is valuable from the fact that it aims at prevention and not cure merely. The great obstacle to his suggestion seems to be one of expense, entailing as it would extensive alterations in many farms. But how necessary it is, will be realised when it is taken into consideration that a cow-house in which a single tuberculous cow is stalled is a constant source of danger to all other animals living under the same roof.

Now that the attention of the whole world is fixed on our army, it may be of interest to know that during the years, 1880-85, 4,422 men were lost to the State through consumption. Taking the Government estimate of £120 per head, this means a financial loss to the coffers of the nation of £530,640. We have had lately an interesting example of how our army is occasionally fed. Details must be too fresh in the minds of your readers to need repeating.

The enormous increase of consumption being a question of national importance, it cannot be lightly put on one side, because of the inconvenience which radical reform in our customs and habits would entail. Let us pause awhile and think this question out impartially, for if thousands of our fellows can exist on a diet which does not include the flesh of animals, and yet enjoy life to the full, why should we continue to eat what scientists tell us not only injures us by its chemical composition, but is also liable to contain disease germs?

If any of our readers think it worth serious consideration and are interested enough to desire information on the subject of Vegetarianism, and how it can easily be adopted in the home life, they cannot do better than apply to the Vegetarian Federal Union, 16, Farringdon Street, London, E.C., who will gladly answer enquiries and forward recipes for the preparing of dishes, which by their almost unlimited variety will be a revelation to those who have hitherto considered the diet of the Vegetarian as monotonous and insipid.

Yours faithfully,

JOHN HADDON, M.D.

Denholm, Hawick, N.B.



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## Food and Sanitation.

SATURDAY, JANUARY 20, 1900.

### Preservatives in Food :

#### Muddling the Question.

WHOEVER be the persons who are responsible for advising the Battersea and St. George's (Hanover Square) Vestries to institute the recent prosecutions for boracic acid in clotted cream and in milk they have the satisfaction of knowing they are making things exceptionally good for lawyers and scientific experts, even though the acts are brought into disrepute by prosecutions instituted during the very time a Government Commission is enquiring into the subject of the harmfulness or otherwise of the preservatives. In Hudson's

case, in which that firm has appealed against Mr. Shiel's decision the costs will be several hundred pounds, which seems a trifle high for airing a fad at the ratepayers' expense, should they, as is most likely, be called upon to pay the bill.

A significant sign that magistrates are weary of these analytical wrangles and scientific hair-splitting was made by Mr. Lane, Q.C., at the South-West London Police Court on January 11th, when that magistrate, in pursuance to a mandamus granted by the Court of Queen's Bench, renewed the hearing of a summons against Harry Hanson, of New Yard, Great Queen Street, W.C., for selling milk which on an analysis was found to contain boracic acid.

The prosecution was instituted by the vestry of St. Mary, Battersea, under section 6 of the Food and Drugs Act of 1875, which made it an offence to sell to the purchaser any article not of the value and substance demanded, but there was a proviso under which the difficulty in this case had arisen. This enacted that where any ingredients not injurious to health had been added no offence was committed. In the present case it was admitted that boracic acid had been introduced into the milk for its preservation during hot weather. Mr. Lane declined to give a decision, for the reason that eminent scientists were divided in opinion as to whether or not boracic acid was an ingredient injurious to the purity of milk.

Mr. W. W. Young represented the vestry, and Mr. Ricketts appeared for the defendant.

After a legal argument, Mr. Lane thought the evidence was too slight and indecisive to allow him to convict the defendant, but as he had been required to give a decision, he should dismiss the summons, but without costs.

Mr. Lane's colleague, Mr. Rose, gave the vestry no more encouragement. On January 10th, Messrs. Cox and Hall, dairy farmers, Wroughton, Swindon, summoned by the vestry of St. Mary, Battersea, for giving a false warranty in respect to certain milk supplied to George Donald Godwin, a dairyman, carrying on his business at Battersea.

Mr. W. W. Young represented the vestry ; while Mr. Ricketts defended.

It seemed that in the first instance Godwin was summoned for having sold milk which on analysis was found to contain boracic acid. He produced the warranty which he received from the wholesale dealers—the defendants—certifying the milk to be pure, and the case was consequently dismissed, hence the institution of the present proceedings.

Mr. Ricketts said he did not dispute the presence of boracic acid in the milk, but urged it was frequently used as a preservative in hot weather, and, moreover, eminent men had expressed a strong opinion that the acid was in no way injurious. He also argued that the defendants could not be convicted under the 27th section of the Food



and Drugs Act, inasmuch as it had been repealed by another, which came into operation on the 1st inst.

Mr. Rose said it was perfectly true the section had been repealed, but it had been re-enacted in different language, but with a proviso favourable to the defendants.

Mr. Young said the offence as an offence still existed.

Mr. Ricketts pointed out that the penalty under the new section was £100, and proceeded to contend that his clients could not be mulcted in that sum for an offence supposed to have been committed before the passing of the Act.

Mr. Rose thought it would be unsafe to proceed with the case, and suggested that the summons should be withdrawn.

Mr. Young hesitated to adopt the suggestion without

first consulting the authority which he represented, and asked for an adjournment.

The summons was adjourned for a month to enable Mr. Young to consider what steps to pursue as regards the suggestion thrown out by his worship.

These cases bear out the advice we gave our readers some time ago. Here we have three London magistrates of large experience hopelessly at variance over the question, and we have the further fact that any police court conviction obtained now settles nothing, because until the Committee appointed by the Government reports on the question it is in a state of chaos, and it is wasting the ratepayers' money wantonly as well as persecuting traders to bring cases into court under the existing circumstances.

## Dietetic and Hygienic Notes.

### 50,000 Boxes of Danish Butter Lost :— A Hoax on English Newspapers.

ON November 25th last, we called attention to the artful advertising methods of the Danes and their hoax on the British Press. We mentioned that in the art of securing cheap advertisement for their butter the wily Danes are past masters. Their latest returns show that they possess seventeen margarine manufactories, and that no less than 27,983,556 lbs. (Danish) were manufactured as against 23,720,569 lbs. in the preceding twelve months. 4,257,511 lbs. (Danish) were also imported from Germany, Holland, Norway, and Sweden. What becomes of the enormous quantity of margarine manufactured and imported, 32,241,067 lbs. (Danish) is not disclosed, but one fact is clear—the amount which Denmark exports as margarine is hardly worthy of mention, nor is it at this moment likely to be the subject of much enquiry, because, wily as ever, the Danes have devised another cheap bamboozle of the English Press. Our newspapers have just conveyed to the public the well-known information that a committee of influential Danish merchants and farmers has been formed for the purpose of expressing sympathy with Britain and to make some useful gift to the British troops in South Africa.

It has now been decided that the gift shall take the form of 50,000 boxes filled Danish butter.

As an advertisement, and cover of a swindle, this move of the Danes is distinctly clever. Denmark ranges herself on our side (unlike the *moitié tigre moitié singe* French) and when other nations revile us the Danes say they will send to our troops 50,000 boxes of butter. Whether it is mere bluff or not does not matter, Danish butter secures another free advertisement from the entire English Press. It is nobody's business to see if the 50,000 boxes of butter are sent to our troops, and mark the wily Dane again! It is not stated if the boxes are cwt. ones, or pound, or half-pound, or ounce boxes. It is only a craftily worded puff of Danish butter, but it succeeds in impressing upon the average English reader exactly what it intended, viz., that Denmark feels with us in our losses in South Africa, and testifies to her friendship by the munificent offer of 50,000 boxes of butter—truly a clever example of throwing a sprat to catch a whale. In the face

of this generous gift of 50,000 ounces, quarter-pounds, half-pounds, pound or cwt. boxes of Danish butter, of which Tommy Atkins may receive none, or as much in the pound as the Balacava heroes did of the fund raised for their benefit, it would naturally seem ungracious to say or write anything of an unpleasant kind, however true, about the Danes and their margarine imports and butter swindle. Thus argue the Danish butter plus margarine gang; and their plans have succeeded.

What becomes of the margarines? The Danes know thoroughly well the variations in English, Irish, and other butters caused by difference in feeding, breed of cows, soils, climate, and mode of manufacture. They know they can put about 10 per cent. of margarine into butter sent to us—Denmark's great customer—and that there is not an analyst who, knowing the variations we have enumerated, would swear with absolute belief that the butter was adulterated, hence Denmark's increasing need of margarine.

Having examined the Danish swindle we now want to know about the gift of 50,000 boxes. Has anyone seen them? What has the English Press to say about the mean contemptible spoof?

\* \* \* \*

### The Composition of Foreign Sausages and Deutsche Delicatessen.

ONE wonders if a tithe of the consumers of foreign *hors d'œuvres*, have any knowledge of the practice of the makers of the delicacies. A recent disclosure in a London Police Court, where Florent Grysperdt, a Belgian, was fined £5 and costs, and another person £2 and costs for cruelty to the sausages of the future by leading between them seven horses in an unfit state through London, *en route* for their long home in Belgium, ought to open people's eyes. There was no question, says the *Morning Herald*, "as to the destination of the poor animals, for Grysperdt—probably considering it an extenuating circumstance—informed the magistrate that that was the use to which the sorry steeds were to be put. It is revolting to the English palate to think of supping on horse-made sausages, but when the horses are old and diseased it is—well!" It is then that they are transmogrified into *Deutsche Delicatessen*.



## The Question of Gruels in the Feeding of Infants.

By HENRY DWIGHT CHAPIN, M.D., New York.

DURING the past decade, the advances that have been made in substitute infant-feeding have been marked and satisfactory. Every factor in connection with the production and handling of cows' milk has been carefully studied and regulated. The outcome has been that the greatest attention to strict cleanliness is insisted upon, and, if milk must be kept beyond a certain length of time, pasteurization or sterilization to prevent deleterious changes is employed. After having procured a clean milk, attention has been directed to attaining a right percentage of the various ingredients of cows' milk in reference to women's milk. The careful studies made in this direction have been a great step in advance, and enable us to administer to the infant a proper proportion of food principles necessary to its satisfactory growth and agreeable to its digestion. It has seemed to the writer, however, that with this advance we are in danger of neglecting some things that long clinical experience has proven to be good. The principal trouble lies in the difficulty many infants have in digesting the casein of cows' milk, even when reduced to the same proportion as in women's milk. We are told by physiological chemists that the casein of different animals is not the same, and that the casein of cows' milk differs chemically from that of women's milk. We know that it differs physically, as the proportion of casein coagulated by acids is greater in cows' milk than in women's milk, and the clot in the former case is tough and tenacious in character.

The best method of acting on the casein of cow's milk in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of the cereals. Although this has long been believed, it has been denied on good authority, so that the writer instituted a series of experiments for the purpose of further studying the question. The writer extends his thanks to Professor Graham Lusk for the use of his physiological laboratory at the University Medical College, and for his kind co-operation in the work. The following three solutions were treated with liquid rennet:—(1) Plain cows' milk, 50 c.c.; (2) cows' milk 25 c.c., water 25 c.c.; (3) cows' milk 25 c.c., barley-water 25 c.c.

Each tube was inverted three times and warmed to 40 deg. C. on a water bath. Then 3 c.c. liquid rennet was added and each tube again inverted three times. The tubes were allowed to stand for ten minutes at a temperature of 40 deg. C. Each tube was then inverted three times, and the contents were poured into large glass beakers. The following were the results:—(1) Solid clot; (2) large, tough clots; (3) smaller, more flocculent clots. After standing until the clots had subsided to the bottom of the beakers, the supernatant fluid in (2) and (3) was carefully decanted to allow a more careful inspection of the clots. A mass of clot from (2) and (3) was next placed in separate test-tubes and well covered with water. Each test-tube was then inverted three times. This agitation caused the clot in (3) to break apart, but that in (2) retained its cohesiveness. These experiments were repeated several times, with the same results, with one exception. In this case, tough, stringy clots were thrown down by the rennet in the solution of barley-water and milk, and we were at a loss to account for this result so different from all the other experiments. It was finally found that by mistake, a preparation of barley-water two days old had been used, instead of a freshly prepared solution. This barley-water was fermenting and very acid. When fresh barley-water was used, the small curds were thrown down as before. This shows the necessity of always using a freshly made gruel as a diluent of cows' milk if a favourable effect upon the curd is to be obtained. An experiment in digesting clots (2) and (3) was made as follows: Portions of each clot of similar size were placed in beakers and covered with artificial gastric juice. They were then placed in an incubator and

kept at the temperature of the body for twelve hours. The contents of the beaker (3) were apparently more fluid and changed by digestion than beaker (2).

The next experiments were made with a healthy dog with a gastric fistula that had been produced for the purpose. The experiments were performed on consecutive days, early in the afternoon, the dog having fasted from the previous evening.

(1) 50 c.c. milk and 50 c.c. barley-water were mixed, warmed, and given to the dog by mouth. This solution remained in the stomach for ten minutes, when the fistula was opened and the contents of the stomach were removed consisting of 85 c.c. of changed milk with the addition of some frothy mucus. The reaction was slightly acid to litmus paper. The stomach was then washed out with distilled water, the water coming away clear. The stomach contents were placed in a glass beaker for inspection. The milk was clotted, and the curds fairly soft and flocculent.

(2) 50 c.c. milk and 50 c.c. water were mixed, warmed, and given to the dog by mouth. At the end of ten minutes the fistula was opened and 90 c.c. of semi-fluid contents were removed. The reaction was slightly acid to litmus paper, but tests showed there was no free acid in the contents removed. The stomach was washed out with distilled water. The stomach contents were placed in a glass beaker for inspection. The clots tend to separate in experiment (1). These experiments were repeated with essentially the same results.

(3) 50 c.c. milk and 50 c.c. barley-water were mixed, warmed, and given to the dog by mouth. This solution remained in the stomach half an hour, when the fistula was opened and the contents were removed. The reaction was very acid. The curds were fairly fine and disseminated through the mass, apparently partially digested.

(4) 50 c.c. milk and 50 c.c. water were mixed, warmed, and given to the dog by mouth. The mixture remained in the stomach half an hour, when the fistula was opened and the contents were removed. The reaction was very acid. The curds were larger and collected more in masses than experiment (3).

Besides attenuating the casein, the addition of gruels to cows' milk increases the nutritive value of the food. This is of great service in that class of cases in which bottle-fed babies show stationary or losing weight. The food for such infants may be properly prepared as far as percentages are concerned, and yet they do not thrive. This is especially seen in institution babies. A proper addition of gruels to milk will not infrequently check wasting. The large proportion of lactose, a carbohydrate, in woman's milk shows the desirability of this food principle to the growing baby. The rapid production and easy dissipation of animal heat in the very young, with active tissue metabolism, indicate the call for some of the carbohydrate series.

Various observers have called attention to the favourable effect of carbohydrates in tending to prevent the putrefaction of proteids in the bowel. Such action is doubtless due to the formation of acids in the intestine, especially in the lower segments. The presence of free acids in the bowel prevents the growth of those intestinal bacteria that thrive in an alkaline medium.

While proper theorizing is desirable in the practice of medicine, the ultimate and final decision upon any therapeutic question must rest upon clinical experience. The writer has tried all kinds of infant-feeding with that hardest class of cases, bottle-fed babies in hospital and dispensary practice. By adding gruels to the milk, the best results are obtained with these babies. The theory is that the cereal will help attenuate the curd of cows' milk and aid in the nourishment of the baby; in practice the infant is not so apt to vomit thick curds, and the tendency to a stationary or losing weight is often lessened. Jacobi, with



his long clinical experience, while recognizing and utilizing all the advances in infant-feeding, maintains that the use of decoctions of the cereals is of the greatest value as an addition to cows' milk. He finds that even very young infants thrive better when cows' milk is diluted with gruels than when mere sugar solution is added. In Germany, Heubner, of Berlin, comes to the same conclusion with a wide clinical experience.

The common objection advanced against this method of feeding is that a nursing should not be given starchy food in any form, as its digestive powers cannot cope with this food principle.

While large quantities of starch should be withheld in infancy, even the youngest baby can tolerate and digest a small and proper amount. According to Hammarsten, ptyalin, or salivary diastase, the amylolytic ferment of the saliva, occurs in new-born infants. He also states that pancreatic diastase, which according to Korowin and Zweifel, is not found in new-born infants and does not appear until more than one month after birth, seems, although not identical with ptyalin, to be nearly related to it. Hence a certain amount of starch can be digested by the newly born and very young infant. It may be of interest in this connection to glance at one of the more recent analyses of the amount of starch in certain cereals, in comparison with older analyses. Reference is made to a report of the United States Department of Agriculture, upon the carbohydrates found in wheat and maize. These important cereals are shown to contain a large variety of carbohydrates, among which the following have been quantitatively determined:

	Per cent.
Sucrose ... ..	0.2 to 0.70
Invert Sugar ... ..	None „ 0.08
Dextrin ... ..	0.3 „ 0.40
Starch ... ..	30.0 „ 42.00
Pentosans and hemicelluloses ... ..	4.0 „ 5.00
Fibre ... ..	2.0 „ 2.50

The older analyses hold that the cereal grains contain from seventy per cent. upward of carbohydrates, although the foundation for this rests not on specific analytical determination, as in the above analysis, but on estimates "by difference." Thus the newer analyses shows a discrepancy amounting to twenty per cent. or more of the entire material between the actual amounts of carbohydrates found in the materials studied and the amounts indicated in many of the recorded analyses in which the nitrogen-free extract determined "by difference" has been regarded as wholly of carbohydrate matter. This discrepancy introduces not only important errors into the estimation of the nutritive value of foods based on the earlier analyses, but on their digestibility as well. Any disadvantage in the employment of wheat or barley flour from the starch contained in these cereals in very young infants may be easily overcome by dextrinizing the gruels. In an article upon infant-feeding some years ago, the writer demonstrated that the prolonged domestic heating of flour had no effect in changing starch into soluble starch and dextrin, as was then supposed. The flour ball, made by prolonged boiling of wheat flour in a bag, does not have a good effect by reason of any chemical change in the starch, but probably in consequence of some physical alteration which renders it more effective as a diluent. An easy, rapid and simple method, within reach of all, consists in dextrinizing the gruel by the addition of diastase. Most of the commercial malt extracts are sufficiently active in diastase to produce the desired effect. The writer, however, prefers the use of diastase itself as being both speedy and efficient, it can either be produced cheaply at home or purchased at the nearest drug store. A simple decoction of diastase may be made as follows: A tablespoonful of malted barley grains, crushed, is put in a cup and enough cold water added to cover it, usually two tablespoonfuls, as the malt quickly absorbs some of the water. This is prepared in the evening and placed in the refrigerator over night. In

the morning the water, looking like thin tea, is removed by a spoon or strained off, and is ready for use. About a tablespoonful of this solution can be thus procured and is very active in diastase. It is sufficient to dextrinize a pint of gruel in ten or fifteen minutes. The gruel is made as follows: A tablespoonful of wheat flour or barley flour is beaten up into a thin paste with a little cold water and then stirred in a pint of water, which is boiled for fifteen minutes. When cool enough to be tasted, a tablespoonful of the above solution, or a teaspoonful of malt extract or preparation of diastase is added and the mixture stirred as further cooling takes place. The great bulk, if not all of the starch, will be thus dextrinized in about fifteen minutes. The previous boiling is for the purpose of gelatinizing the starch so that the diastase can act to advantage. The gruel is now ready to be used as a diluent of cows' milk, and can be assimilated by the youngest and weakest infant.

In average cases, and if the bowels tend to looseness, wheat or barley flour may be used. When there is constipation, oatmeal had better be employed on account of the fat it contains. According to Dietrich and König, the percentage of fat in these cereals is as follows: Barley, 2.09; wheat, 1.55; oats, 6.09. It is difficult to procure barley flour, except as it is to be purchased in the form of prepared barley by certain manufacturers. Some coffee-grinders are fine enough to make a coarse flour out of pearl barley, and a satisfactory gruel can thus be made. The barley grains themselves, however, may be used if flour is not available. A tablespoonful of barley is soaked over night in a little cold water. This water is then removed and the barley boiled for five or six hours in a pint of water, replenishing the water as it evaporates below the pint. It is then strained and ready for use. As wheat flour is procurable in every house, it is a desirable basis for making gruels. In hot weather dextrinized gruels constitute a refreshing and nourishing drink for babies when milk in every form must be temporarily abandoned. Recently some foreign observers have claimed excellent results in infant-feeding by the use of what they call "malt soups." In the *Medical Record* for January 14th, 1899, a quotation is given from the *Deutsche medicinische Wochenschrift* (September 28th, 1898) in reference to some investigations made at the Breslau University Children's Clinic. Satisfactory results were obtained with a food made of 50 gm. of wheat flour stirred into one-third of a litre of water at 50 degrees C., and adding to this 10 c.c. of an eleven per cent. solution of potassium carbonate. A malt extract mixture is then stirred into the preparation of flour and milk, and the whole cooked together. Rapid gain in weight is reported in twenty-eight infants under six months fed upon this food. It was also found to be adapted to cases of gastro-intestinal disease.

Professor Graham Lusk has narrated to the writer some experiments he made in feeding pigs two days old. To one lot he gave only cows' milk skimmed; to another, skimmed milk to which two per cent. of sugar was added; and to a third, skimmed milk with two per cent. dextrose. The first lot did not thrive; the second did fairly well, while the third grew vigorously. The explanation may be that dextrose is the normal blood sugar and hence useful to the young animal.—*Medical Record*.

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### Tricks in the Brandy Trade.

It seems hard that after a firm has spent years in building up a business reputation that people should be able to buy imitations of their labels and sell other produce, as "Hennessy's Three-star Brandy." The offence is eminently one deserving prison, because it is not one which can be committed innocently, and it is generally about 100 chances to one against the perpetrator of it being found out.

At Marylebone Police Court, Mr. Curtis-Bennett had before him Charles J. Vickery, a member of the Maryle



bone Vestry, carrying on the business of a grocer at 57, Crawford Street, Portman Square, charged on a summons with selling a bottle of brandy to which a false trade description was applied.

Mr. Bodkin, barrister, prosecuted on behalf of Messrs. Hennessy, and Mr. G. Elliott, barrister, defended.

Mr. Bodkin explained the system adopted by the firm in importing their brandy from Cognac to this country, part being in bulk and part bottled. That bottled was of three classes, each distinguished on the cork, capsule, and label by one, two or three stars. A person went to the defendant's shop and asked for a bottle of Hennessy's three-star brandy. He was supplied with a bottle of brandy on which was a label resembling that used by Messrs. Hennessy, but on examination it was found not to be one of Hennessy's three-star bottles of the article. As a matter of fact, it was not known what the brandy was like, but whether better or worse it mattered not; the firm's trade mark had been infringed by labels being applied to the bottle of such a character that many of the public would be under the impression that they had

been supplied with Hennessy's three-star brandy. That was unfair to the public and to the trade.

Mr. Elliott, for the defence, said his client wished to offer a complete and ample apology for what had occurred, and to assure the court that it should not be repeated in the future. Mr. Vickery some time ago attended a sale and bought a cask of brandy and bottled it at his establishment. He was told that it was thought to be Hennessy's brandy, so he purchased some labels, of which the one produced was a sample, at a printer's, the name and address of whom he was prepared to disclose. Of course he ought to have communicated with the firm before taking that step, but he did not realise at the time the gravity of his act.

Mr. Curtis-Bennett remarked that it was extraordinary that a man carrying on a large business should not know something about the trade he was conducting. It was certainly rather startling that he should have labelled the brandy as three-star—Hennessy's highest quality. The defendant was liable to be sent to prison with hard labour for four months without the option of a fine. He would, however, be fined £10 with £10 10s. costs.

## Cold Storage.

**Its Importance to Butchers, Fish and Game Dealers, Butter Merchants, Provision Dealers, Dairymen, Fruiterers, Greengrocers, and all engaged in the sale of Foodstuffs.**

The charge for cold storage is in reality an insurance against waste and prosecutions for unsound or drugged food. There is no communicability of odour, *i.e.*, milk or butter does not take up the smell of fish, cheese, bacon, or vegetables which may at the same time be in the cold stores.

### COLD STORAGE SAVES WASTE AND INCREASES BUSINESS.

Cold storage enables the provision dealer to supply butter, lard, etc., in better condition, and saves him a great amount of money now lost in hot weather by the large percentages of water which exude into the butter stands, which water has been paid for at butter price by the retailer. Butter is firmer and better textured when taken from cold storage as required, and far more satisfying to the customer by its better keeping properties, as it does not develop rancidity nearly so rapidly in hot weather as does butter which has stood on the counter and become soft through heat.

### ADVANTAGES TO DAIRYMEN.

For dairymen, cold storage is all-important. At present milk is often found dosed with a preservative drug by the farmer. It is next further drugged by the middleman, and often before it reaches the infant or other user it receives a third dose by the dairyman. The use of cold storage not only renders this unnecessary, but saves the dairyman from any danger of fines, imprisonment, and ruin to his business. Cold storage thus protects him from loss and enables him to proclaim that he sells pure milk, free from any drugs. Doctors and mothers note quickly such guarantees, and the dairyman's business benefits accordingly.

### COLD STORAGE FOR FISHING CENTRES.

It is astonishing that cold storage is not found in every fishing centre, big or little. At present thousands of tons of valuable food are at times either wasted or sold for manure prices. One day mackerel may be seen at places

like Brighton selling at twenty a shilling, and the next or following day the same class of fish sell at 1½d., 2d., or 3d. each. When enormous catches are made the mackerel, herring, etc., could be put into cold storage and placed on the market as required, thus securing regular, remunerative prices.

### ENORMOUS PROFITS MADE BY COLD STORAGE OF APPLES.

Recently, Mr. W. N. White, managing director of the firm of Messrs. W. N. White and Co., Limited, gave some very interesting facts and figures. In the month of December last the firm had about 60,000 cases direct from the packers in California. Fully believing in the merits of cold stores, Mr. White advised the storing of 30,000 cases. Some were stored in New York, some in London, and the balance in Liverpool, and the results proved that Mr. White was right in his ideas, as, after paying all expenses, including the cost of cold storing the fruit, the 30,000 cases will show a profit of about £4,500 over what they would have made if sold last December.

### COLD STORAGE OF POULTRY.

Frozen poultry, too, had been shipped to London from the States and Canada, particularly in 1897, when large quantities left over from the Chicago Exhibition were marketed in London. After the close of that exhibition an expert was consulted by a merchant in New York who had gone in largely for frozen poultry for the Exhibition, and to his surprise was left with a large stock on his hands. Acting on advice, arrangements were made for getting this surplus cold-stored, and, notwithstanding the fact that the articles had been frozen for two or three years a temperature of 20 degs. Fahr., samples were turned out in excellent condition after careful defrosting, and buyers were so favourably impressed that ready sales were found for the goods.

### COLD STORAGE OF BUTTER.

Cold storage has enabled our kin in Australia to put their butter on the English markets in the winter months, Australian butter was sold during January, February, and March, at 1s to 1s. 2d. per pound, whereas the home-made article (the finest grass butter, produced in July), having to be marketed as soon as made, only realised 7d.



to 8½d. per pound. It is proved that what was done with butter from Australia could be done with the English butter, provided the same means were employed, and this would then have the effect of regulating prices, which would be beneficial all round, say 9d. to 10d. in the summer months, and 1s. to 1s. 1d. in the winter.

#### COLD STORAGE OF MEAT.

It is important to note the treatment of meat abroad, where it is immediately refrigerated as soon as the beast is killed, while in this country, owing to lack of appliances, the beast killed in hot weather often turns green the next morning, and a lot of it has to be thrown away. Along with any provision of public slaughter-houses it would be well if attached to these were cold stores, so that in case of the market being fully stocked at the time of killing, the meat could be placed in them, to be brought out at a more favourable time, and thus secure better prices. And allied to this is the question of finance. In America, when a man wants money, he need not realise his stock at once, which would often mean sacrificing them in a bad market. All he has to do is to get his warrant from the cold store, take it to the bank, and get an advance of 50 per cent. to 75 per cent. on it. Not only is this done with meat, &c., in cold stores, but also with corn in the elevators. The charge made for storing in either cold stores or elevators is small.

Enough facts are here given to prove to every thinking

man that no city or town should be without cold storage and a Linde refrigeration installation for working the same and producing ice, the use of which is increasing enormously. Cold storage on strictly scientific, precise, and practical lines is Nature's own healthful way of preserving food. It should be borne in mind that the whole medical profession condemns the use of drugs as food preservatives and denounces the widespread practice of adding preservatives to food as responsible for the large increase of indigestion and other stomach and nerve troubles.

#### EVERY TOWN COUNCILLOR SHOULD SUPPORT MUNICIPAL COLD STORAGE.

It is, therefore, the duty of every enlightened town councillor and public official to press forward the provision of cold storage in the city or town in whose local government he has a voice and plays a part. For their own protection and interest, all dealers in food stuffs should bring the cold storage question before their municipal representatives at once.

The Linde British Refrigeration Co., Limited, 35, Queen Victoria Street, London, E.C., will be glad to furnish full information, to show the process at work, and to estimate for complete installations on any scale. Traders, town councillors, medical officers of health, borough surveyors, and all interested are invited to communicate with the Company.

## Cold Storage Notes.

### Progress in 1899.

MESSRS. L. STERNE AND CO., LTD., the Crown Iron Works, Glasgow and Donington House, Norfolk Street, London, W.C., reports that in the northern part of the Kingdom, they have built and erected the sixth refrigerating plant for Mr. R. D. Waddell's works, and have also successfully completed the large installation for the North British Cold Storage and Ice Co., Ltd., at Leith, which is used both for ice-making and cold storage. Another installation has been erected for the Alloa Co-operative Society, also two important ice plants, one for the Bonaccord Ice and Cold Storage Co., Ltd., and the other for the North Eastern Ice Co., Ltd., both of Aberdeen. This makes the third order they have received from the North Eastern Ice Co., Ltd. They have in course of erection ice and cold storage plants for the Fraserburgh and North of Scotland Steam Trawling Co., Ltd., and for the Dundee Ice and Cold Storage Co., Ltd., the latter of whom are using two large De la Vergne machines, one for ice-making and the other for cold storage.

In England they have erected refrigerating machinery

at the Carlton Hotel, a large ice-making plant for Messrs. Slaters, Ltd., and have also installed one of their machines at the Gas, Light and Coke Co.'s Works at Beckton, besides shipping a number of machines to South America, New Zealand, Japan, and other foreign countries. They have also erected a refrigerating plant for Messrs. Lipton, Ltd., at their Bermondsey Works, making the third order received from this firm. The order for the Southampton Cold Storage and Lairage Co., Ltd., and the London and South Western Railway Company, which is the largest refrigerating contract ever given out in Europe, has also been secured by Messrs. Sterne and Co. In addition, amongst other important orders, the firm have in hand plants for the Burnley Corporation, the David Lewis Northern Hospital, Liverpool, a large plant for water cooling for Messrs. Ind Coope and Co., Burton-on-Trent, and a refrigerating plant for hop cold storage for Messrs. Strauss and Co., London, which makes the third installation erected in London by Messrs. Sterne and Co. for hop cold storage, they being pioneers in this special branch of the refrigerating industry.

## Notes for Dairymen.

### Some of the Dangers of Our Milk Supplies and the Relation of Pasteurization to their Removal and Prevention.

By D. T. NAGLE. Read at the Meeting of the Western Branch Sanitary Inspector's Association.

FOR some time past there has been a growing feeling amongst the medical profession and the public generally that whilst thoroughly recognising the great necessity and value of perfect sanitary and veterinary inspection of all sources of our milk supplies and their surroundings, there

was something further required to ensure the removal and prevention of any source of infection and risk to which the milk may be exposed in its journey from the cow to the consumer.

What is wanted is a system, which in conjunction with the compulsory carrying out of the requisite sanitary requirements and inspection in every detail, would be a safeguard to the public without impairing the quality or nutritive properties and flavour of the milk, a system which would meet with the approval of the medical profession and be accepted by the public.



Milk, as secreted, is sterile, but on scientific examination, milk under ordinary conditions always reveals bacterial life. If, however, it were possible to secure the milk in exactly the same condition as secreted no microbes would be found in the milk from a healthy cow; like other secretions of the body it is normally sterile, but in the very process of withdrawing it from the udder it often becomes contaminated. It is after milking, or during the operation, that the milk often gets contaminated.

The danger of impregnating milk with infection is not due to the bacteria ingested with the food, but to a large extent to those that adhere to the animal's coat and subsequently fall into the milk. The hairy coat of the animal offers exceptional facilities for the harbouring of dust and dirt. It is, therefore, extremely rich in various forms of bacterial life that are derived from the particles of excreta that stick to the flanks and under parts of the animal when it lies down, and so during the operation of milking, aided by the head of the milker, these foreign particles are continually falling into, and so adding bacterial life to the milk. Even the dust-laden garments often act as a channel to convey numerous forms of bacterial life to the milk. A little more care taken to clean the body of the cow and also the often dusty clothes of the milker would often prevent a good deal of the trouble caused by not doing so. The proper cleaning and care of the milking vessels, the ventilation and draining of the cow-sheds, cleaning out and removal of the manure from the milking yards, the water supplies for the cattle and cleaning purposes, are all vital points necessary for the safety of our milk supplies.

Of those diseases that are communicable from the animal to man by means of the milk, tuberculosis is by far the most common, and to combat and prevent which is at present, and has for some time past, engaged the serious attention of many of our most prominent medical men, and has by them at various times been brought very strongly before the public. *Re* extract from Sir William Broadbent's speech at Sudbury, September, 17th, 1896:—

"Consumption is no longer regarded as a visitation from God, but as a result of the ignorance and carelessness of man, and one of the commonest methods by which the disease is disseminated is the daily milk supply."

In fact, all prominent authorities point out and lay great stress that as a sure preventative against any possible chance of infection all milk should be cooked before using.

Several schemes have, at different times, been placed before the public to try and render our milk supplies safe to the consumer, but up to the present have not met with general approval.

It has always been the notion that having milk, so to say WARM from the cow was a reliable safeguard, but that is decidedly wrong. The very fact of the milk being kept after being milked at any temperature from 70 deg. to 100 deg. F. is the very best temperature for the attraction and propagation of the germs of any disease that may be hanging about, if nothing else was done. All milk should be thoroughly refrigerated before leaving the farm as soon after milking as possible, whatever may be said by those whose interest it is to encourage the sale of so-called hot milk. It is a fact that at a temperature of anything about or below 50 deg. F. the bacteria which are to be avoided lose their power of development and reproduction.

So much is this considered essential that for factory or creamery purposes alone (how much more so for human consumption?) the Colonial Government have a clause in their "Dairy Industry Act" as follows:—"Every person supplying milk to a dairy factory or creamery shall, immediately the milk is drawn from the cow, pass the milk over a cooler or aerator, for the purpose of being properly cooled or aerated."

The two systems which have been most prominently brought before the public are sterilization and pasteuriza-

tion, terms which are too often taken by the public as one and the same thing; but not so, there is a great difference.

Sterilization as regards milk means heating the milk to or above boiling point (212 deg. F.), and all milks treated at a high temperature have a characteristic boiled or cooked taste so very objectionable to many, and it is said that the continued use of highly heated milks like sterilized or boiled has a tendency to produce certain disorders of the system.

Pasteurization is the use of heat at a temperature ranging from 150 deg. to 170 deg. F. and kept at that temperature for twenty minutes, after which it must be quickly cooled down to about or below 50 deg. and kept at that temperature.

This system of applying heat and cold alternately for destroying bacterial life was first used by M. Pasteur, and from whom the system takes its name. He first used it in combating the maladies of beer and wines. Its importance as a means of increasing the keeping qualities of milk was not generally recognised until a few years ago, but is now rapidly growing in favour as a means of purifying milk for commercial purposes from germ life of all sorts.

If properly and thoroughly carried out the pasteurizing process ensures the treatment of the milk in such a way as to destroy the seeds of contagious disease, thereby rendering the milk supply pure and wholesome.

To render the process thoroughly satisfactory the milk should be first passed through a filter, which should remove the dirt, any foreign matter, and even the greater part of any living bacteria that may be in the milk. Its construction should be such as to be easily cleansed, in addition to which it should be thoroughly steamed under pressure every time it may be used, so as to thoroughly prevent the transmission of any chance bacteria from one operation to another.

Pasteurized milk or cream shows no apparent change in physical characteristics, as change of colour. The only change observed in properly pasteurized milk is that whilst not a particle of butter fat or cream is removed from the milk in the operation before or after, the cream does not rise to the top of the milk so freely afterwards.

In normal milk, as it leaves the cow, fat-globules are grouped together in tiny clots or masses, and it is to this state of aggregation that the consistency of normal milk or cream is largely due, but by the action of heat in the process of pasteurization the fat aggregation is broken down and the fat-globules homogeneously distributed throughout the serum.

No chemical preparations of any kind should be used in the process.

Some time since, the directors of this company, in their desire to keep pace with the times and meet the wishes of many customers, decided to adopt the best possible and practical system that could be carried out to ensure the delivery of all milk, etc., supplied by them in the highest possible state of purity and safety, so as to safeguard the interest of their customers by doing all in their power to try and prevent any possible chance of infection from any milk supplied by them.

In addition to very extensive sanitary alterations to the premises, drains, etc., they decided to adopt a system of thorough pasteurization.

The plant which I have the honour of submitting to you for your inspection and criticism is, I think, the most complete of its kind in this country. Everything is of the latest and most approved type, both scientific and mechanical, that could be brought into practical use on a large scale to treat with large quantities of milk, and to carry out successfully the object for which it was built and fixed, and I am pleased to say that up to the present it has more than fulfilled our expectations.

First, one of the most important features in a perfect pasteurizing plant from the starting point is the filter,



The one we have adopted is on the centrifugal principle, and there is no other system of a thorough practical nature for the purification of milk to surpass it in the world. Every particle of dirt or other foreign matter is taken out of the milk in the process, also most of the living bacteria that may be in the milk are taken out at the same time. It only wants to be seen in operation once to convince the most sceptical person of its thorough efficiency. Being all metal, it can be submitted to steam at a high pressure to destroy and cleanse the machine from any chance bacteria that may be left behind after each operation. It is most simple in its operation. All other practical systems have more or less great sanitary imperfections.

One very important feature is that the milk is thoroughly cleaned before passing into the scalding.

The milk is passed by a patent pump into the scalding, which, although continuous in its action, has always its supply of milk kept at one level, so as to make the scalding uniform in its action; it has also a patent reducing valve which has never before been applied to a milk scalding. Its use is to ensure exactly the same amount of heat being applied continuously to the milk in the scalding, and is so set that the milk always leaves the machine at the temperature required. It is then passed into vessels in an insulated tank of hot water, so as to keep the milk at a proper temperature for the required time, from where it is afterwards pumped into a tank over powerful refrigerators to cool the milk down to the temperature required. In warm weather the water for cooling is first cooled down by the aid of a powerful refrigerating machine, one of Hall's CO. machines, which also cools down the fine range of cold storage and also for butter making. The water used for all purposes is obtained from the water-works supply.

As to the premises, most of the walls of the dairy have been cemented. I should like to call your attention to the flooring, as it is considered the best kind of dairy flooring to be had for sanitary purposes, thoroughly impervious to moisture of any kind, and easily cleaned. It is well worth the attention of anyone interested in sanitary matters. It is laid with Stuart's patent granolithic flooring, upon a thick bed of dry stone concrete; all drains have been taken up and relaid.

Our can cleaning may interest you. We never wipe out any cans after cleaning, but steam them all out. It has been proved over and over again that milk will keep much longer after a can has been steamed out than without.

There is one other small matter, and I will bring my few remarks to a conclusion, and that, in spite of all sanitary precautions, many of the customers are themselves often to blame for the careless way in which the vessels are kept, and of the places in which they keep their milk; but I feel sure that with ordinary precaution on the part of the customers or their servants, all milk treated in the manner which I have tried to lay before you would thoroughly destroy any possible chance of infection through any milk supply which has honestly been submitted to thorough pasteurization.

\* \* \* \*

#### Hereford County : A Milk Adulterator's Paradise.

It is an old boast of Lancashire men that what Lancashire thinks to-day England will think to-morrow. It might be Hereford county's boast that what Hereford thinks to-day England thought twenty-five years ago so far as suppressing adulteration is concerned. In twelve months only a miserable thirty-one samples were analysed for the entire county, and not a solitary sample of milk, says Dr. Voelcker's report, was taken until the latter part of September. Four samples were then taken, two of which were adulterated. Manufacturers of glucosed golden syrup, spurious demerara sugar, drugs below strength, and milk, plus water and preservatives, have a free hand in the County of Hereford.

They had better, however, avoid the city as the Inspector there appears to be less complaisant towards adulteration. As Mr. T. H. Elliott, of the Board of Agriculture, has recently sent circulars to Hereford County Council, it may interest those who are waiting to see what the L.G.B. will do, to know that Hereford magistrates—of which Mr. C. W. Radcliffe-Cooke, M.P., was one—at Ledbury took the following view of their duties :—

George Morgan was charged by Supt. Phillips with selling a pint of milk adulterated with five per cent. of water. P.C. George Yapp stated that he purchased one pint of milk and divided it into three parts; and all three samples were sealed. Supt. Phillips stated that he sent one of the samples to the County Analyst, and produced a certificate of analysis, which showed that the sample contained five per cent. of added water. Defendant said that this was the worst month in the year for taking samples, and he thought that samples of other sellers' milk should also have been taken, to prove his contention. The Bench decided to convict, but did not impose any fine. They hoped this would be a warning. They were of opinion that the police should have taken other samples, and Supt. Phillips said he would report the expression of opinion to the Chief Constable.

The same "happy-go-lucky" spirit is evidently general in the county.

At Leominster, before Alderman Hyde (in the chair), Alderman Page, and Messrs. R. Bright, T. Smith, and M. J. Ellwood, Mr. George Smith, South Street, was summoned on a charge of adulterating milk. Mr. H. J. Southall appeared for the defendant, who pleaded not guilty.

Evidence having been giving by P.C. Clee, Ivington, and Supt. Price,—

Mr. Southall said anything savouring of persecution was abhorrent to the English mind. Instead of taking samples from all who sold milk, Supt. Price had taken a particular milk-seller perhaps, because he was the largest seller in the town. During the week his client had had special cause, and in order to meet them, he had had to buy some five or six gallons a day from other milk-sellers. The sample was taken from the milk bought, but of course it was impossible to tell whose milk it was. Mr. Smith did not mix his milk with that bought, and had never put water into his milk. He (Mr. Southall) had himself visited Mr. Smith's premises, and was satisfied that it would be impossible for milk to be adulterated without the knowledge of the witnesses whom he should call. The character of his client had been attacked, and it was only right that an opportunity should be given for him to defend himself.

Evidence for the defence having been heard, the Bench dismissed the case, saying the evidence of these witnesses proved satisfactorily the character of his milk, but in future all milk-sellers would be held responsible for all milk sold by them, whether they had bought it or not.

The defendant said it was impossible to analyse the milk they bought, and it would be rather hard to be prosecuted if it were not right.

It thus appears to be the opinion of Hereford magistrates that it is no hardship to the public if they pay for pure milk and do not get it.

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#### A Gross Abuse by Railway Companies.

We hope to see concerted action by dairy farmers to remove the serious wrong they now suffer by reason of railway companies refusing to allow locks on milk churns. A case at Southwark on January 11th, shows how monstrous are the results of this regulation by railways :—

James Harding, of Horse Hill Farm, Evercreech, was charged for selling milk from which 43 per cent. of cream



had been abstracted. Mr. Clavell Salter, barrister (instructed by Mr. Trevor-Davies, of Yeovil), defended.

The Inspector stated that he was asked by Mr. Crook, of the Avon Dairy Company, whom the defendant was supplying with milk, to take a sample from the churn on its arrival at Waterloo. He did so, and had it analysed. The analysis showed it was 43 per cent. short of cream.

By Mr. Clavell Salter: He took three samples altogether from three of defendant's churns.

The analyst reported that the *other two churns were rich in cream.*

Mr. Clavell Salter stated that his client was a respectable farmer at Evercreech, farming 140 acres of land, with a dairy of 32 cows, and was assisted by his eight sons, employing no other labour. The milk was taken from the dairy straight to the cooler and run into the churns, and taken direct to the station at Evercreech. It was shown that two out of the three churns were rich in cream, and if they had been mixed together they would have passed the Inspector. If the defendant had tampered with the milk he would have taken from all three churns, and not from one only, and it must, therefore, have been extracted on the journey up. In the face, however, of a recent case, as his client had agreed to supply pure milk at Waterloo, he was technically liable, but under the circumstances he hoped the Bench would inflict a small fine only.

Defendant and his son, Gilbert King, were called and confirmed the learned counsel's statement.

The Magistrate stated that defendant was bound to supply pure milk at the place of delivery, under the circumstances he should fine him in the sum of 20s. only, and 12s. 6d. costs.

It transpired during the hearing of the case that the Railway Company do not allow senders of milk by rail to put any locks on their churns!

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#### Boric Acid in Food.

In view of the general interest attaching to the use of

preservatives in food, and especially to the employment of borax and boric acid as preservatives for milk, cream, etc., it appears of importance, at the present time, says the *Pharmaceutical Journal*, to note that many leading authorities appear to be agreed that the addition of borax or boric acid to food does not render it harmful. Professor Oscar Liebreich points out, in a recently-published monograph on the subject, that boric acid, even in a 5 per cent. solution, exercises no injurious action whatever on the gastro-intestinal epithelium. Borax has a more powerful action, but a solution containing at least 2 per cent. is required to cause the disintegration of epithelial cells, *i.e.* a stronger solution than would be required to produce a similar effect in the case of soda or saltpetre. It is not surprising to learn, therefore, that the "severest criticism of medical observations, and experience won from experimental research justify the conclusion that borax and boric acid are innocuous as preservatives of food. That assertion, of course, is only valid within such limits as apply to all victuals and drugs, for it is known that medicines, food preservatives, and even aliments, though harmless when used properly, may cease to be wholesome and become injurious when taken injudiciously or in excess. It is noteworthy that even common salt, in 5 per cent. solution, exercises an inflammatory action on the intestinal mucous membrane. According to Professor Liebreich, experience has proved that 1.2 Gm. of borax or boric acid taken in food daily, even for a considerable time, does not affect health injuriously. "Even quantities twice as large have not been proved injurious, scientific investigations have decisively demonstrated that these doses are far below the limit where deleterious action commences." In conclusion, Professor Liebreich expresses the opinion that whoever studies with care the numerous experiments of different investigators will end by adopting the view that borax and boric acid, far from being injurious to the human system, are really wholesome substances. That statement may be commended to the careful consideration of some public analysts.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**ANOTHER UNSOUND CONDENSED MILK SEIZURE.**—At West Ham on January 10th, Henry Spiller, baker and cake manufacturer, High Street, Stratford, E., was summoned by Dr. C. Sanders, Medical Officer of Health for West Ham, for having on his premises for the purpose of preparation for food twenty-four tins of condensed milk which were unsound and unfit for food. Mr. G. Hay Young defended. Dr. Sanders said that he went to the defendant's place, and in the dark end of the underground cellar he found a case containing twenty-eight tins of condensed milk. The tins were "blown," they were without labels, and when witness remarked to defendant, "You know they are wrong," Mr. Spiller answered, "Are they?" The tins were seized, and on examination the contents were found to be decomposed. By order of Mr. Biggallay they were destroyed. By Mr. Young: Defendant had four of the tins. Cake-making was in progress, and condensed milk was being used from 28-lb. tins, and that milk was good. There was a large consignment of 28-lb. tins there. After hearing evidence, Mr. Biggallay imposed a fine of £20 and costs.

**MILK PROSECUTIONS.**—At Stratford, London, E., on January 6th, John Hipwell, of 79, Portway, West Ham, trading as the Melford Dairy Farm Company, was summoned by the East Ham District Council (1) for selling milk containing 20 per cent. of added water, and (2) for selling separated milk containing 40 per cent. of added water. Mr. C. E. Wilson prosecuted, and Mr. F. Stern defended. The defendant was summoned for a similar offence

some time ago, and then deposed that the business was not his, and the case was then dismissed. The same defence was now raised, and a Mr. Westop, of Long Melford, Suffolk, was called. He said that in September, 1893, he transferred the business to Hipwell for £350, to be paid by instalments, of which he had received nearly £200. Mr. F. Stern submitted that the business would not be Hipwell's till the last instalment was paid, but Mr. Burnett Tabrum (the chairman) said that if Mr. Stern had not got a better defence he had better sit down. Three convictions for selling adulterated milk were mentioned, and in the result the Bench said the cases were abominable. On the first summons the defendant must pay £15 and costs, and on the second £10 and costs.

At Nottingham, on January 9th, Isaac Greaves, farmer, of Old Dalby, was summoned on the information of Mr. Burns, Inspector of Nuisances, for supplying milk adulterated with 4 per cent. of added water, and there was a second summons against the defendant charging him with abstracting 10 per cent. of fat. Mr. Day, of the Town Clerk's department, prosecuted, and Mr. H. B. Clayton represented the defendant, who pleaded not guilty. Mr. Burns took a sample of the milk from a churn at the Midland Railway Station, at Nottingham, consigned from the defendant to Mr. Tom Barker, 46, Corporation Road. The sample was sent to the Public Analyst, and the certificate showed that there was a 4 per cent. addition of water, and 10 per cent. abstraction of fat. Mr. Clayton considered the 4 per cent. of water a very small matter indeed, while the loss of fat could be attributed to pouring the milk from one vessel to another and sub-division of samples. He emphasised the fact that the present was a very bad time for milk; his client would have no use for the fat if it were extracted, as he neither supplied cream nor butter. He called a number of witnesses, who proved that on account of the shortness of turnips, and lack of good hay, the milk this year was of a poorer quality. The Chairman said in view of the question of food and the time of year, there was a certain amount of doubt in this case, and the charge against the defendant would be dismissed.



At Nottingham, on Jan. 12th, George Henry Burnham, milk carrier, Derby Road, Lenton, was summoned by William Betts, inspector of nuisances for selling milk from which 16 per cent. of fat had been abstracted. Mr. H. W. Day (from the Town Clerk's Office) appeared to prosecute, and Mr. H.B. Clayton to defend. Mr. Day remarked that for a man to sell milk with such large percentage of fat abstracted was a very serious matter, especially at a time like the present, when so much sickness prevailed. The Inspector spoke to purchasing a pint of milk from the defendant's son, and delivering a sample to the City Analyst (Mr. S. R. Trotman). The Analyst's report showed that the above-mentioned amount of fat had been abstracted. Questioned by Mr. Clayton, witness said that so far as he knew no previous complaint had been made against the defendant. Mr. Clayton then addressed the Bench on behalf of the defendant, who, he said, had been connected with the trade more or less all his life. The milk was certainly not tampered with on his premises. It would have been impossible for the defendant to have abstracted the fat, as when he received the milk the cream had not risen. The Bench remarked that it was quite clear an offence had been committed against the Act, and the defendant would be fined 40s. It was quite possible, Mr. McCraith added, that Burnham was suffering from the sins of others.

At Worship Street, on January 10th, three of the alien immigrants who have established themselves as small shopkeepers in Spitalfields were prosecuted by the sanitary authority of Whitechapel, under the Food and Drugs Act, for selling milk not of the nature, substance, and quality demanded. The defendants were Isidor Margulinski, of Brick Lane; Jane Kiroch, Fashion Street; and Isaac Symons, of Brick Lane. In the first two cases the evidence given by Sanitary Inspector Wrack showed that the milk was adulterated with water to the extent of 18 per cent. and in the case of Symons, there was a deficiency of cream fats to the extent of 73 per cent. The defendants pleaded that they sold the milk as received by them from the wholesale dealers. Mr. Dickinson said that the poor largely relied on milk for their children, and the children suffered when such wretchedly poor stuff was sold. Margulinski was fined 50s. and 12s. 6d. costs; Kiroch, whose business was smaller, 25s. and 12s. 6d. costs; and Symons, as he did a large trade, £5 and 12s. 6d. costs. The amounts were paid.

At Stratford, on January 10th, James Softley, of 235, Star Lane, Canning Town, was summoned for selling adulterated milk. The adulteration was 23 per cent. of added water, and the defendant, who pleaded guilty, was fined £10 and £1 5s. costs.—Robert Arthur Bruce, of 111, Bidden Street, Canning Town, for a similar offence, was fined £5 and 17s. 6d. costs, the adulteration being 21 per cent. of added water.—George Horsey, of 85, Percy Road, Canning Town, was similarly summoned, the adulteration being 20 per cent. of added water. The fine was £5 and 17s. 6d. costs.—Katie Davis, of 23, Hermit Road, also summoned in respect to an adulteration of 7 per cent. of added water, was fined £2 and 10s. 6d. costs.

At Paisley, on January 10th, before Sheriff Henderson, Samuel Cameron, dairyman, 6, Glebe Street, Renfrew, was convicted on a charge of having, on 21st November last sold to an inspector threepence worth of sweet milk which was diluted with 15 per cent. or thereby of water, contrary to the Sale of Food and Drugs Act, 1875. A modified penalty of £5 was imposed.—A similar penalty was imposed upon James Mark, dairyman, Old Mains Farm, Inchinnan, for having, on 21st November, in Dunlop Street, Renfrew, sold threepence worth of sweet milk to the inspector which was deficient in natural fat to the extent of 56 per cent. or thereby and was diluted with 5 per cent. or thereby of added water. Inspector W. W. Kelso proved the cases.

At Lostwithiel, on January 12th, William Richard Levers, dairyman, North Street, was charged with selling adulterated milk. Superintendent Endeau, of Bodmin, who took a sample, said the analyst certified that it had been adulterated with water to the extent of 25 per cent. Defendant said the pooriness of the milk was owing to the length of time since the cow had calved. He never put half a pint of water with milk in his life. Fined £5 and 18s. 6d. costs.

John Jones, dairyman, of Clarence Road, Hackney, was summoned for selling milk which contained 27 per cent. of added water. The defendant told the inspector that he could not expect to get good milk at the bottom of the pan. He now said that he sold it exactly as he received it. Mr. d'Encourt fined him £3, with 12s. 6d. costs.

John James, of Mare Street, Hackney, was summoned for selling milk which contained 15 per cent. of added water. Mr. Young, who defended, said the defendant had asked the vestry to sample the milk on the contractor's premises, but that had not been done. The defendant was fined 40s., with 12s. 6d. costs.

William Jenkins, of Median Road, Clapton, for selling milk from which 17 per cent. of the fat had been abstracted, was fined 10s., with 12s. 6d. costs.

At Ipswich, last week, Thomas Hacon, milk-seller, was charged with selling milk adulterated with water. Mr. W. Bantoft, who appeared to prosecute on behalf of the Public Health Authorities, said samples of the milk were taken by the Inspector, and a sample was sent to the Public Analyst at Norwich. The

latter's certificate showed that the genuine milk in the sample was 84 per cent., and the amount of added water 16 per cent. The sample only contained 7.15 per cent. of non-fatty solids, whereas normal milk contained at least 8.5 per cent. The defendant was fined £2 and £1 0s. 6d. costs.—William Horsfall was summoned for a similar offence. Mr. Bantoft said so far as the public were concerned, this case was very serious, the percentage of added water being very large. The Public Health Committee had directed him to say that they had proof that adulteration of milk had been largely going on in the town, and with the co-operation of the Bench they desired to stop it. In this case the genuine milk was only 78½ per cent. and the added water 21½ per cent. Replying to Mr. Leighton, the Inspector accompanied defendant to the farm from which he obtained his milk, and there saw milk delivered to him. The Town Clerk said there was no doubt that defendant was not morally guilty, but he should take more care as to the quality of the milk he sold, which he purported to be pure. Mr. Leighton remarked that milkmen did not seem to know that a written warranty from the persons who supplied them would protect them in cases of this kind. The Chairman said that the case was not such a bad one as the other, but at the same time it was defendant's business to see that he sold pure milk. He would be fined 10s., and 19s. costs.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Torquay, on January 5th, Ernest Edward Preston was summoned for selling adulterated butter. The sample, which was sold at 1s. 2d. per lb., was enclosed in a wrapper bearing the words, "Pure Devonshire butter." Dr. Winter Blythe, analyst, certified that the sample contained 7 per cent. of water in excess of the 15 per cent. allowed, viz., 22.2 per cent., and therefore it was below the usual standard. For the defence, Mr. Booker pointed out that water was one of the natural constituents of butter, and analysts differed as to what quantity really was allowed in pure butter. Defendant did not make the butter, but purchased it without getting a warranty. The Bench, whilst intimating that the public must be protected, thought that there was no intention on the part of the defendant to commit any fraud, and dismissed the case on payment of the costs. It would be unsafe, however were traders in other places to sell water made to stand upright!

Thus at Listowel, on January 9th, J. Lyons was charged with having exposed for sale a quantity of butter which contained an excessive quantity of water. The analyst certified that the sample contained 20.21 per cent. of water. A fine of £1 and costs was imposed.

At Limerick, on January 5th, Joseph Carmody, and his assistant, William Somers, were each summoned under the Food and Drugs Act and under the Margarine Act for selling margarine as butter. Laurance McDonnell, ex-sergeant of the R.I.C., now inspector for the Irish Dairy Association, bought the samples, which were analysed by Sir Charles Cameron. Carmody was fined £5 and costs on each summons, and Somers £2 and costs for both summonses.

At Bristol, Edward George James, of Tower Hill, was summoned for selling margarine which was not labelled, and also for selling as butter that which was not butter but margarine. Mr. Roberts (from the Town Clerk's office) stated the conditions under which the defendant was asked for half a pound of butter, and supplied what proved to be margarine. Mr. Wansbrough, who represented the accused, said his client had only just started in business, and he had been the victim of what was really a gross fraud. He ordered butter from a wholesale firm in Bristol, received an invoice for butter, and paid for it as butter, but margarine was supplied. It was such a bad case that probably an action would be brought against the firm who had defrauded him. Defendant was called and gave evidence in support of counsel's statement. The chairman said the magistrates, while they sympathised with the defendant, were compelled to see that the provisions of the Act were maintained. What was more, a grocer should know sufficient of his business to be able to distinguish between butter and margarine. Under the circumstances, they would impose the reduced penalty of 20s. and costs.

At Dorking, on January 6th, Oscar Hall, Westcott, was summoned for having sold half a pound of margarine which was not labelled as such, and for having sold butter not of the nature and substance demanded. Mr. T. W. Weeding, who prosecuted on behalf of the Surrey County Council, said the council attached much importance to these cases, because margarine was sold chiefly to the poor, and because the fraud was in their opinion rather a substantial one. Margarine varied in price from 3½d. to 6d. per lb., whereas butter was sold at from 1s. to 1s. 6d. per lb., and there was therefore a profit of about 200 per cent. in selling margarine as butter. Mr. Talbot Kyle, inspector, and Mr. Charles Matthews, his assistant, proved the purchase, the former also producing the analyst's certificate, which showed that the sample contained 60 per cent. of foreign fats, 11 per cent. of water, curd, and salt, and 9 per cent. of butter fat. Defendant pleaded that the margarine was sold by his wife by mistake. Fined £1 in each case, costs included.

In Paisley Sheriff Court, on January 9th, James Wills, grocer, 54, Causeyside Street, was fined £2 for selling one pound



of margarine wrapped in a paper which did not bear the necessary label.

At Warrington, John Daly, grocer, 41, Old Road, was fined 10s. and costs on two charges, first for having margarine exposed for sale without the requisite label, and second for selling margarine without having the wrapper required by law. In extenuation defendant's wife said she had removed the label and wrappers while cleaning for Christmas.

At Dunkinfield, on January 11th, J. W. H. Rawlinson, grocer, Birch Lane, was summoned for exposing for sale margarine without a label. Inspector Lea said he visited the defendant's shop and saw four parcels on the counter. One was marked "margarine," two "pure butter," whilst the other bore no label. He bought a pound for 6d. and sent it to the analyst, who certified that it was margarine. When witness told the defendant he was the inspector, his wife said she had brought the margarine out of the cellar to serve a customer. Defendant strenuously denied the offence. He said the inspector called at the shop and asked for a pound of butter. Witness was serving him with some, when he leaned over the counter and asked to be supplied with some off a plate, which contained several bits of butter and about a pound and a half of margarine. He gave him a pound, and only a small piece was left. He had only been in the shop a month, and it was not likely he would try and defraud the public. The magistrates, whilst of opinion that defendant had committed a technical offence, were of the opinion that he had not tried to defraud customers, and they fined him 2s. 6d. and costs.

At Leeds, on January 12th, Alfred Buckingham, grocer, 84, Sheepscar Street, Leeds, was fined £5 or one month's imprisonment for having sold to Inspector Walker, on December 3rd, one pound of butter containing 86 per cent. of foreign fat. The deputy town clerk, Mr. Joliffe, prosecuted.

**CAMPHORATED OIL PROSECUTIONS.**—At Caerleon Petty Sessions, on January 11th, before Messrs. A. M. Pilliner and C. H. Firbank, George Frederick Thorne, grocer, of Maindee, Newport, with branch establishments at Cumbran and Caerleon, was summoned by the Monmouth County Council for selling camphorated oil which was deficient in camphor, contrary to Section 6 of the Foods and Drugs Act. The facts were not disputed, but the point involved was whether the certificate given by the county analyst was valid or otherwise, according to the Act. Mr. G. L. Lloyd (Messrs. Lloyd and Pratt) defended. The magistrates' clerk stated that the case was heard at Cumbran some weeks ago, and deferred in order that the law might be looked into. Mr. Pilliner, the chairman, then gave the judgment. The Bench, he said, had come to the conclusion that the summons must be dismissed, and that under the circumstances the County Council, who were the prosecutors, must pay the Court costs and solicitor's fee, amounting to £2 6s. 6d. The Bench were prepared to state a case for a higher Court if necessary. While the magistrates did not wish to do anything to discourage these prosecutions, yet they wished to point out that the proceedings must be taken in the proper form. Mr. Lewis (the inspector): If the Council decide to appeal, a case will be granted. The Clerk: Yes; certainly. The Court have offered to state a case.

At Market Harborough, on January 9th, John Thomas Griffin was summoned for selling camphorated oil which was not up to the required standard. Chief Constable Holmes said the sample was deficient principally in the active ingredient in the camphor, there being but 15 per cent., whereas the standard usually adopted was from 20 to 21 per cent. Again, the medium for conveying the camphor—which was the oil—which should be all olive oil, contained 20 per cent. of cottonseed oil. Mr. W. Simpson, who appeared for the defendant, admitted the offence. He said his client on coming into possession of his present business took over the stock, among which was included the camphorated oil. Therefore there was no guilty knowledge on his part. Inspector Couderoy, of Kidderminster, stated that during the twelve years defendant carried on business in that town he bore a very high character. The bench imposed a fine of 15s., including costs.

**NITRE PROSECUTION.**—At North London, on January 11th, William Swift, chemist, of Chatsworth Road, Clapton, was summoned for selling sweet spirits of nitre which was deficient in its active principle (ethyl nitrite) to the extent of 33 per cent. The defence set up was that spirits of nitre was a very volatile drug, and it was most difficult to keep it up to its full strength. Mr. d'Eyncourt imposed a fine of 20s. with 12s. 6d. costs.

**OLIVE OIL PROSECUTION.**—At Bedlingtonshire Petty Sessions, on January 5th, John Elliott, general dealer, Scotland Gate, was charged under the Food and Drugs Act with selling olive oil adulterated with 33 per cent. of cottonseed oil, on November 23rd. For the defence it was stated that the oil was just as purchased by the defendant, and was not sold as an article of food. The Bench did not consider that the defendant intended any fraud, but he was technically guilty in selling the oil. A fine of 5s. and costs was imposed.

**COCOA PROSECUTION.**—At Thames, on January 11th, Edwin Towndrow, grocer, 180, Jubilee Street, Mile End, was summoned

for selling cocoa adulterated with arrowroot and sugar. Mr. Jutsum prosecuted. Mr. Twaites, inspector for Mile End, purchased the sample on the 18th December, when the defendant's wife, on being told it was purchased for the purpose of analysis, stated that it was chocolate powder. The defendant then entered the shop and said, "How are we to know what it is?" The sample, according to the certificate of the analyst, contained 15 per cent. of arrowroot and 40 per cent. of sugar. It was sold to Mr. Twaites at 1s. 4d. a pound. Mr. Dickinson imposed a penalty of 20s. and 28s. costs.

**COFFEE PROSECUTION.**—At Dronfield, on January 15th, George Earl, grocer, of Valley Road, Meersbrook Park, Norton, was summoned for selling coffee adulterated with 50 per cent. of chicory. Mr. William Henry Stead Crabtree, an Inspector of the Foods and Drugs Act under the Derbyshire County Council, went into the shop on the 12th December, and called for a quarter of a pound of best coffee, for which he paid 4d. When he received the coffee, he told Mrs. Earl with what object the sample was purchased, and she then told him it was a mixture. On opening the packet the inspector found a label on which it was stated that it was a mixture of chicory and coffee. The analyst certified that the sample contained 50 per cent. of chicory. Defendant pleaded not guilty, and said that if the offence was committed it was done in ignorance. A fine of £1 including costs was imposed.

**WEIGHING PAPER WITH TEA.**—At Newcastle-on-Tyne Police Court, on January 12th, judgment was given in the charges, under the Merchandise Marks Act, against the Bombay Tea Company of having sold tea with a false trade description. It was alleged that on two occasions a customer asked for two half-pounds of tea, and that although each package supplied to him contained half a pound, including wrapper, the actual weight of tea was short. A printed notice on the wrapper stated that the weight, including the wrapper, was half a pound, but no notice was given to the customer, who would not see the notice unless he looked for it. The defence was that there was no misdescription. The Court held that the trade description was not an infringement of the Act and dismissed the summonses. A case was granted.

At Wednesbury, on January 16th, the South Staffordshire Stipendiary gave an important decision affecting the custom of weighing paper with tea. A county inspector found a tradesman using a sheet of paper between the scale and the scoop pan, which caused the scale to be unjust, being ten drams against the purchaser. The defence was that the custom was practised by the wholesale and retail traders throughout England, and if prohibited would revolutionise the tea trade. The Stipendiary gave a lengthy judgment, held the custom to be illegal, and inflicted a nominal penalty.

**GOLDEN SYRUP PROSECUTION.**—At Burton, on December 29th, Sarah Anne Fathers, grocer, Wellington Street, was charged with selling a quantity of golden syrup, which was adulterated with 70 per cent. of glucose syrup, on the 23rd December. In this case William Grassam gave formal evidence as to the buying of a pound of golden syrup for 2½d., and Mr. Van Tromp spoke to receiving the samples from Grassam. Mr. Jones said the sample he received from Mr. Van Tromp contained 70 per cent. of glucose syrup as apart from cane syrup, which it should have contained. Glucose was an inferior article, and was not so sweet as cane syrup, but it had the effect of turning treacle into golden syrup. In answer to the Bench, Mr. Jones said glucose was perfectly harmless; the only thing was that it was cheaper and not so sweet. Fined 10s. and £1 13s. costs.

At Arundel, on January 8th, Louisa Johnson Bell, shop-keeper, of Walberton, who sent Alfred Carpenter to represent her, was charged with selling golden syrup not of the nature, substance, and quality demanded by the purchaser. Carpenter pleaded guilty on defendant's behalf. George Grender, aged 13, deposed that on November 29th he went to Mrs. Bell's shop at the request of Sergeant Webling and purchased two pounds of golden syrup, which he afterwards handed to the police officer at the door. Sergeant Webling said he received the golden syrup from the last witness, and explained to Mrs. Bell that it had been purchased for analysis by the public analyst. He divided it into the usual three parts, one of which he left with Mrs. Bell. Defendant told witness that she sold the syrup just as she received it from the wholesale firm. Otto Hehner, public analyst for the county of Sussex, deposed that he received the sample referred to and found that it was not golden syrup but starch glucose, to which a small quantity of sugar syrup had been added. He gave a certificate stating that the syrup was made up of 80 per cent. of starch glucose and 20 per cent. of syrup. Syrup, added Mr. Hehner, ought to be a product obtained from the fining of sugar; it was much sweeter, more pleasant, and more easily digested, besides being considerably dearer than starch glucose. By Sir Henry Fletcher: Witness would not like to go so far as to say the sample produced was injurious to health; but it was indigestible stuff. Defendant's representative said the article had been stocked particularly for one customer, who had now left the village. They did not sell much syrup in bottles. A fine of 5s., and the costs, 14s., were inflicted. The public analyst said he would forego his expenses.



At Woburn Petty Sessions, Edward Hooper, of Hockliffe, grocer, was charged with selling golden syrup adulterated with 30 per cent. of glucose syrup. Mr. Mitchell prosecuted and Mr. Beck, of Luton, defended, and pleaded not guilty. Inspector Mason stated that on November 21st he called at defendant's and asked what brand of golden syrup he kept. Defendant said he kept Lyle's, in tins, which was guaranteed pure; and another sort, which he sold in small quantities and did not guarantee. Witness bought one and a half pounds of the latter, which was divided and subjected to analysis in the usual way. The analyst's certificate was produced, which stated that there was an adulteration of 30 per cent. of glucose syrup. Mr. Beck contended that there had been sufficient notice given to the purchaser at the time of sale, so that the purchaser was not prejudiced. Defendant gave evidence and stated that the syrup was sold as it always had been for the last twenty years. No fraud was intended. The difference in the price of the two syrups was a half-penny a pound. Fined 10s., and costs 12s. 6d. Paid.

At Midhurst on January 11th, Richard Alberty, grocer, Graffham, was fined £1 and costs for selling golden syrup adulterated with fifty-five parts of glucose syrup. The syrup bore a label on the tin worded "Record Reign Pure cane golden syrup. Defendant denied selling the article as pure golden syrup, and remarked that the purchaser (a police-constable) must have seen the label which stated that the syrup was pure cane golden syrup, and was manufactured from cane sugar and glucose.

At Petworth Petty Sessions, Henry A. Harding, Fittleworth, was summoned for selling adulterated golden syrup. The certificate of Mr. Otto Helner, public analyst, showed that the sample was adulterated with 80 per cent. of glucose. Defendant, who said he sold the syrup as it was labelled, was fined 10s. and costs, the latter to include the analyst's fee.

**SPIRIT PROSECUTIONS.**—At Clerkenwell, on January 6th, Thomas John Caffin, of the "Prince Regent," 37, Sidmouth Street, St. Pancras, was summoned for selling rum 5 degrees below the standard strength, viz., 25 degrees under proof. The prosecution was taken by the St. Pancras Vestry under the Food and Drugs Act. Mr. Ricketts, jun., prosecuted, and Mr. Cowdell appeared for the defence. The purchase was made by one of the Vestry Officers. Before he left the house, his attention was called to a notice announcing that all spirits sold in the establishment were diluted, but not below half-proof strength. The defendant said the notice was so placed as to be immediately in front of the officer when he entered the bar. It was customary to have such notices in public houses. Mr. Bros imposed a fine of 20s., and 12s. 6d. costs.

At East Penwith Petty Sessions, on January 9th, William Rowe, King's Head Hotel, Redruth, was charged with selling adulterated spirit. Superintendent Vercoe said he purchased a pint and a half each of brandy and whisky from the defendant's hotel. An analyst certified that the brandy was brought down by the addition of water to 27.5 degrees under proof, and the whisky to 26.19 degrees under proof. In each case 25 degrees was allowed. Mr. Vivian Thomas, for the defence, urged that the small adulteration was trivial. Fined 5s. in each case, and the costs, £1 18s. 6d.

*An Important Point under the New Act.*—Upon a summons taken out by the Camberwell Vestry against a tradesman for selling gin not of the nature, substance, and quality of the article demanded by the purchaser, coming before the Court on January 16th, at Lambeth. Mr. Gosnell, who defended, raised the objection that the procedure adopted by the Vestry was that prescribed by the old Food and Drugs Acts and not that laid down by the new Act, which came into force on the 1st instant. He contended that as the summons was taken out on the 4th inst. the procedure of the new Act should have been followed. He referred the magistrate to Section 19 of the new Act, which provides—"In any prosecution under the Sale of Food and Drugs Acts the summons shall state particulars of the offence or offences alleged, and also the name of the prosecutor, and shall not be made returnable in less time than 14 days from the day on which it is served, and there must be served therewith a copy of any analyst's certificate obtained on behalf of the prosecutor." Mr. Gosnell pointed out that the summons in this case was not served until the 8th inst., so that the period between the date of service and the day of testing was less than 14 days. The defendant had not been supplied with the analyst's certificate as required by the section.—Mr. G. W. Marsden, solicitor to the Vestry, pointed out that at the time the alleged offence was committed the old Act was in force. Mr. Hopkins upheld the objection raised by Mr. Gosnell, and dismissed the summons.

**MUSTARD PROSECUTION.**—At Sparkhill, on January 15th, Henry George Charge, grocer, of 248, Warwick Road, Greet, was summoned under the Food and Drugs Act for selling half a pound of mustard which was certified by the public analyst to contain 9 per cent. of added starch and a small quantity of turmeric. By direction of Inspector Griffin, a young woman, named Lucy Parry, visited defendant's shop, and purchased the mustard, which was subsequently found to be adulterated in the manner indicated. Defendant said the mustard was some he took in stock from another person at Balsall Heath, and was not his

own purchase. Under the circumstances, defendant was only fined 20s. and costs.

**A MARTELL'S INFRINGEMENT PROSECUTION.**—At the Central Criminal Court, on January 16th, Mr. Bodkin, representing Messrs. Martell and Co., brandy merchants, the prosecutors, stated that he did not desire to offer any evidence against Lucien Besser, against whom a true bill had been found for falsely applying a certain trade-mark contrary to the provisions of the Merchandise Marks Act. The case was one which could have been dealt with at the police court, but the defendant elected to have it sent for trial. Since then the defendant, an army reservist of the Coldstream Guards, had been recalled to the colours, and had departed for South Africa, where he was now on active service. Under the circumstances, and as the case was not in the ordinary sense a criminal one, he desired to withdraw from the prosecution. The recognisances of the witnesses were discharged, and the application of Mr. Bodkin was granted.

**WEED KILLER PROSECUTION.**—A Queen's Bench Division Court, on January 16th, dismissed the appeal of the Pharmaceutical Society from a decision of the county court judge of Worcester, who decided that the defendant, Mr. White, a florist, of Worcester, in selling as agent for the Boundary Chemical Company, Liverpool, "poisonous weed killers," had not been guilty of a breach of the Pharmacy Acts. It was shown that the defendant did not stock the poison, but received the orders and forwarded them to Liverpool to the company, to whom he rendered a quarterly account of the proceeds, retaining 25 per cent. as his commission on the transactions. Under those circumstances the county court judge held that the florist was not the "seller," but simply an agent. The Court yesterday decided on appeal that the defendant did not control the sale. Leave was given to further appeal upon terms.

**SPURIOUS DEMERARA SUGAR PROSECUTION.**—At Hereford, on January 2nd, William Bailey, 6, Church Street, was summoned for selling Demerara sugar which consisted of dyed sugar crystals. Inspector Protheroe stated that he asked for a half-pound of butter and a half-pound of lard, with which he was supplied. Witness then asked if defendant had any Demerara sugar, and he said "No," but an errand boy in the shop said that he had. Witness was then supplied with the sugar for which he paid 2d. The analyst certified that the butter and lard were genuine, but that the sugar consisted entirely of dyed crystals. Defendant said he was giving up the grocery trade, and that was why he had only one pound of sugar in his shop. When Protheroe asked for the pound of Demerara sugar witness replied that he had none, but that he had got dyed crystals. The boy then said that he had some Demerara. Witness supplied this believing it was Demerara. The Chairman said that they did not believe that defendant had any intention to defraud. He had, however, laid himself open to conviction, and as a warning to others to show that they must exercise proper precautions he would be fined 2s., without costs.

**CONFECTIONERY EGGS PROSECUTION.**—At Worship Street, on January 2nd, Max Bolkofsky, of Davis' Mansions, Goulston Street, Whitechapel, was summoned by the Sanitary Authority of the Whitechapel district for exposing a large quantity of eggs unfit for food for sale. The evidence of Mr. Harvey, sanitary inspector, showed that on December 18th, the defendant was selling from a stall in Wentworth Street (the Petticoat Lane market) eggs three for a penny. They were found to be unfit for consumption, and having broken several of them on the spot, the bulk, about 600, were seized and taken to the Vestry, where they were examined, and all found to be bad. It was said, however, that they were largely bought by confectioners in that condition. The defendant, who went into the witness-box, said that he did not know the eggs were bad, and he had paid 33s. for them. Mr. Cluer observed that by selling the eggs at three a penny, which he said was his price, the defendant would have been the loser of 3s. He, therefore, did not believe the defendant when he said he had given 33s. for the eggs. He considered he knew they were unfit for food, and that he was selling them at a ridiculous price in consequence. He fined defendant £10, or a month in default.

**JAM PROSECUTION.**—At the Howden Petty Sessions, Thomas Maltby, grocer, of Bubwith, was charged under the Food and Drugs Act, of 1875, for selling a mixture of black currant and apple jam, as "superior black currant." Mr. H. Hare, solicitor, of Hull, defended. Supt. Clarke, of Howden, produced a 2-lb. jar of jam which had been purchased from the defendant's shop. The jar bore a label "Craven, Ltd., Whole Fruit Works, at Hull and Rotherham (Superior Black Currant)." The jam was submitted to the analyst, Mr. James Baynes, of Hull, who found it to contain 10 per cent. of apples. Under these circumstances, and according to the Act under which the proceedings had been taken, it should have been labelled "Black currant and apple." Mr. Hare addressed the Bench rather lengthily for the defence, arguing that the percentage of apple had merely been added as a stiffening, for without adulteration black currant jam would not set. Mr. Pears, the foreman of the works, bore out this statement, and said the same thing was done elsewhere. The chairman pointed out that the defendant had rendered himself liable to a penalty of £20, but they were prepared to deal leniently with the case, and he would only have to pay a fine of £1 10s. 3d., including the costs.



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## Food and Sanitation.

SATURDAY, JANUARY 27, 1900.

### Our Food Supplies in Case of European War.

Now that both big Englanders and little Englanders have by the present campaign learnt some lessons anent national dangers, the opportunity ought not to be lost to bring vividly home to the public the gravest dangers we have to dread in the event of a European War. The present war has taught us that we were living in a fool's paradise respecting our army, our big guns, etc., but here happily England has been able to rise to the occasion. We have also learnt the exact measure of kindly feeling Germany, France, Austria,

Russia, and in fact the entire continent has for us. In the case of Germany it is specially bitter seeing how many of its starveling, sponging, princelings, and parasites we have fed at our court and put into positions Englishmen ought to fill. We need only illustrate the scandals of Prince Edward of Saxe Weimar in a high army command, of Prince Leiningen in a high naval command, and of the Battenbergs and Christians all comfortably fed, housed, and clothed at England's expense, whilst their relations are showing their gratitude to us for taking these loafers off their hands by training Boer guns on our troops and teaching Kruger's forces the latest points of war. The Bundesrath incident and the Kaiser's threats and demand for a powerful German navy ought to be enough to open the eyes of every Englishman to the fact that Germany's object is to imperil our naval supremacy and grab our trade. We may well ask therefore are we prepared for a war with a first-class power? We depend on foreign sources for at least three fourths of our bread and one-third of our meat whilst our import of feeding stuffs for live stock reaches nearly 90,000,000. It is not that we could not grow more food because out of 47,000,000 cultivated acres we have only some 2,000,000 under wheat and 6,000,000 under other corn crops. France, out of 90,000,000 cultivated acres has 36,000,000 under corn crops, and has 17,000,000 acres growing wheat against our 2,000,000. Were food, as it would be, declared contraband of war, our French foes could support themselves but famine and pestilence would be the lot of at least seven millions of people, i.e., of our average weekly wage earners. Have any of our Liberal or Conservative Governments done anything to secure our people against this real danger? We look in vain for any evidence of foresight or patriotism from our professional politicians. Defence of philosophic doubt, and saving English protestantism, etc., are more important to England's alleged statesmen than national granaries or encouraging English wheat growing. We worship a Free Trade fetish, and will do so doubtless until a conflict with a European, power or powers compels us to pay the penalty in famine, pestilence, and surrender. Now is the time, this question should be sternly asked..

### Denmark's Butter Gift for Tommy Atkins.

A Mean Get Out, But a Bit on Account.

THANKS to our exposures in November last, the shameful hoax played upon the English press by the Danish butter ring has cost them something. It will be remembered that inspired paragraphs went the rounds of our newspapers that Denmark was presenting for the use of Tommy Atkins,

50,000 BOXES OF DANISH BUTTER.

We branded this as a lie at the time, and exposed it as a mean and cheap advertisement for Danish produce. The result is that the Danes have been forced for their credit sake to do something where they intended to do nothing. They have asked Her Royal Highness the Princess of Wales to accept 12,000 boxes of Danish butter as a gift for the British soldiers. Her Royal Highness has consented



to distribute the same among the sick and wounded in South Africa, and has sent the following telegram to the Danish committee: "Sandringham, 6th January, 1900. My heart was deeply moved when I heard of the handsome and practical manner in which the Danish dairies are showing their sympathy for our gallant British soldiers by sending them 12,000 boxes of butter. In asking me to distribute this large and splendid gift among the sick and wounded in South Africa, and on my hospital ship, you

cause me the greatest pleasure, especially as I shall be able to say that it is a present from my beloved native country, Denmark.—With repeated thanks, ALEXANDRIA."

There are 38,000 boxes yet due from these trapped hoax merchants to fulfil their offer and pay for the glorious advertisement they secured for nothing from our entire press. We wait to see the obligation fulfilled. Having had the credit, we insist that they shall pay ! pay ! pay !

## Dietetic and Hygienic Notes.

### Medico-Hygienic Peptonised Bread.

PHOSPHATE of calcium, iodide of calcium and guaiana enter into the composition of "medico-hyg ienic-Peptonised" buns and muffins advertised and sold by Paris Bakers. The druggists say that this kind of bread comes close to being medicine, and should be dispensed only by qualified chemists. The Chamber of Parisian Pharmacists have called the attention of the Police authorities to the matter, in hope that they will cause the practice to be discontinued. The medicated bread, it is said, has a large sale among consumptives in Paris.

\* \* \* \*

### Doctor Wiley on Whisky.

DR. WILEY, the chemist of the U.S. Department of Agriculture says about whisky :

"Chemists can take a pure cologne spirit, and with ethers can make a compound which I, not being a whisky user, and tasting it, cannot tell from the genuine article. It is much cheaper. There are patented methods of artificially ageing whisky, whereby 10-year-old is made inside of three weeks. It is, therefore, not fair to the whisky manufacturer, who actually takes 10 years to produce his whisky, to bring this three-year-old article into competition with his product. It should be sold as artificially aged whisky."

Experiments on animals show that new whisky produces violent drunkenness when old whisky produces a quiet intoxication.

\* \* \* \*

### Adulterated Australian Wines.

WRITING in the *Melbourne Leader*, L. Wullemin says: "I see in a recent issue of *The Leader* that even Spain, with its large area under Vines, is resorting to spurious imitations, upon which there is more profit than on the production of true wine. Here, about three times as much wine must be sold than produced. The stuff concocted with spirits and water, sugar, flavouring, tannin and chemicals, debilitates the system instead of invigorating, as the genuine wine does. Its competition with the pure natural wine is a menace to our viticulture. It is plain our merchants no longer buy their supply from vigneron, whose cellars are full, and seemingly remain so. The Yan Yean and the pump kindly provide a cheaper and more profitable article, and the question is now, how to check it. Our vigneron (Brigolong) had a meeting to consider the subject, and resolved that what was needed for the vigneron was an act similar to the Oleomargarine Act, that saved our dairy industry by preventing imitations being sold as butter. They ask that all wines should be properly labelled, and if artificial, their components stated. A large quantity of Australian wines is now sold in England of which apparently few if any analyses have been ever made.

### "The Lancet" on the recent Prosecutions for Preservatives in Food.

*The Lancet* supports our protest saying;—"Now that the subject of preservatives in food is being very definitely investigated by a Government committee with a view to formulating a precise scheme of legislation, it is surely vexatious on the part of the vestry authorities to persevere in instituting proceedings based on the assumption that boric acid and other antiseptics are injurious to health. How is it possible for a magistrate to express a positive opinion that a certain preservative is injurious to health when admittedly the question is trying the abilities of all leading experts to arrive at a pronouncement on this most important point ? We must not be represented as saying that the addition of preservatives to food in an indiscriminate way should be tolerated, but it is our opinion that until knowledge is more exact upon the point of injury to health it is not reasonable to push a case for prosecution on this ground. The question of injury to health is *subjudice*, and until this is decided by the Committee on Food and Preservatives now sitting it is premature to raise the issue in court. Yet several cases of the kind have been brought before the London courts under the sale of Food and Drugs Act lately. The procedure can do no good, and is likely to defeat the well-meant intentions of the prosecuting parties. It is desirable, we think, that the vestries should wait until they receive from the Government committee a pronouncement as to what is and what it not permissible in regard to the use of preservatives in food. The Food and Drugs Act only warrants these authorities taking action on the ground that boric acid and other preservatives are injurious to health, and while there remains a doubt as to the fact legal action is unfortunate. We may once more state that the public analyst is not qualified to speak on the question of injury to health, and the fact of his assuming that role on occasions only gives strength to the argument that such appointments should be held by medical men exclusively. We trust that some patience will be maintained by those who seem particularly vigilant on this question until the law enables us to view the practice of adding preservatives in a clearer light all round, and especially from the points of injury to health. No real good can be done by instituting proceedings on the lines we have indicated. On the contrary, time and money are wasted and not a little ridicule is bred."

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### Coca Wine.

THE active principles of coca wine are alcohol and cocaine. Whatever other virtues the drugs possess, they certainly do not possess the power to give either health or strength. So that the teetotaler taking a dose of cocaine wine may be relieved of the sense of fatigue, just as he might be if he swallowed a dose of morphine or any one of a half dozen other drugs ; but he is not rested. He simply does not notice that he is tired when he is tired.



### Testaments and Tobacco.

It is curious how rapidly the medical and scientific side of the campaign against tobacco in all its forms appear to be subsiding. This is amusingly illustrated by the fact that first upon all the list of comforts for the wounded supplied by the various funds in Great Britain come cigarettes and tobacco and pipes. Even the Red Cross Society has gone so far as to have special brands of cigarettes and makes of pipes prepared and stamped with its sacred emblem. And not a single medical or clerical voice is raised in protest. Even the clergy are becoming positively friendly to the weed and one cheery evangelical sent to the Red Cross Society a large consignment of *Testaments and tobacco*, in about equal parts — *Mel. News*, New York.

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### Medical Officers of Health v. Public Analysts.

At the last meeting of the Medical Officers of Health, Dr. Walter C. C. Pakes, D.P.H. (Cambridge), Demonstrator of Sanitary Science and Bacteriology at Guy's Hospital, read a paper on the Application of Bacteriology to Public Health. He said Bacteriology is so great a subject that there are now two distinct branches, the pathological and technical. Many years are necessary to become proficient in either, but those who had attended even a minimum course would have learnt how to avoid the many pitfalls with which the ground is strewn. There are two bodies of workers whose domains have been hitherto separate, but who are now coming into contact over the bacteriological and other work. Under the Sale of Food and Drugs Acts a body of men known as public analysts are appointed to perform the analyses required by those Acts. It had got to be believed that the analysis of water was the peculiar prerogative of the public analysts, and some of them appear to have got to believe it themselves. Having had so much water analysis to do they had necessarily become aware of the unsatisfactory results to be obtained from that analysis alone, and, as a consequence, they added thereto the bacteriological examination, many knowing nothing of the science. The Local Government Board rightly insisted that public analysts should be well qualified, and the Institute of Chemistry rightly brings pressure to bear that none but their Fellows shall hold the appointment. Provided that the public analysts content themselves with doing work for which they are so well qualified, no regulation could be better, but, as some of them are trying to include water analysis, and the bacteriological examination of water, butter, milk, &c., and to prevent the Medical Officer from doing this it was, he thought, high time that Medical Officers of Health should have something to say in the matter. He was not going to maintain that mistakes would not arise, but he insisted that if none but a Fellow of the Institute of Chemistry is to be allowed to do chemical work under the Sale of Food and Drugs Acts, none but a diplomate of Public Health should be considered competent to undertake sanitary bacteriology. Even in what they deem their own domains the public analysts are not infallible. One gentleman declared in the witness box that he could not conceive his (the lecturer's) analysis of a sample of water correct, because there was less saline than albuminoid ammonia. He further added that he had had thirty years experience of water analysis, and had never seen it.

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### Alcoholics and Doctors.

I HAVE always felt it imperative to enjoin upon patients the necessity of total abstinence for life, as their only security, except in the direst medical extremity. Persons with a refined, sensitive, or diseased brain using habitually even the smallest amount of alcohol are in great danger. The most active and susceptible qualities of mental activity readily take on an unnatural excitation. Facts everywhere demonstrate that untold mischief results from the daily use of what is usually regarded as a small amount of the purest alcoholic liquors. I find many persons using no more and even less than two and a-half

ounces of alcohol per day, or its equivalent, who are unconsciously alcoholics. The eyes and the skin of the cheeks, nose, ears, and neck show heightened colouring. The use of an ordinary hand lens reveals a decided enlargement of the capillaries in these localities. If this vascular distention has taken place in the denser and less important structure of the skin, why must it not have occurred, even to a greater degree, in the far more delicate tissues of the brain? The heightened colour indicates an advanced stage of the alcohol disease. The deceived victims, however, regard themselves as a very temperate users of alcoholic stimulants, and no amount of argument can convince them that they are in any danger. Alcohol and its derivatives are too thoughtlessly used and too carelessly prescribed by our profession, and any physician who has permitted his patients to become habitués through his counsel or neglect has not been a true friend to the unfortunate sufferers. — C. A. GREENE, M.D., in *Medical Record*.

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In the *Digest of Metabolism*, in experiments in which the balance of income and outgo was determined, Drs. Atwater and Langworthy reported very fully concerning the use of alcohol. In part their conclusions were as follows :—

In experiments made by Mogilianski, of St. Petersburg, in 1889, the object was to study the influence of alcohol on the assimilation and metabolism of nitrogen and the assimilation of fats. Experiments with fifteen subjects were carried out. All the subjects were young and healthy, the majority being students of the Military Medical Academy. The food consisted of meat freed as much as possible from fat, milk, bread, butter, tea, water, and in some cases beef tea and jelly. Each experiment covered ten to fourteen days, and was divided into periods, one with and one without alcohol. Food was taken three times a day, and each meal was accompanied by a dose of alcohol during one period. The amount of alcohol (absolute) given to the subjects daily varied from 60 to 140 cubic centimeters; it was diluted with distilled water. Some of the subjects were long accustomed to alcohol and consumed much of it; others drank it only occasionally; and still others abstained altogether from alcoholic beverages. The portion of alcohol administered to each was determined by his habits, the rule being to give a sufficient quantity to cause slight intoxication.

The author draws the following conclusions: Temporary drinking of alcohol in moderate doses by those accustomed to it increases the appetite and causes an improvement in the assimilation of the nitrogenous constituents of the food. The assimilation decreases in persons not used to alcohol. The assimilation of fats decreases under the influence of alcohol. Persons not accustomed to alcohol are more affected by it than those accustomed to it.

Experiments were made by Parkes in 1872 to study the effect of alcohol and exercise on the human body. The subject was a powerfully built Scotchman. He was very temperate, drinking only a little beer and occasionally spirits. The food in these experiments was oatmeal and milk. The subject consumed 355 cubic centimeters of brandy daily. When no work was done the subject took exercise by walking slowly. The work consisted of digging ground for eight or nine hours per day. He was fatigued by his labour.

The principal conclusions were as follows: Brandy did not affect the excretion of nitrogen during exercise or when no work was done. The brandy increased the action of the heart to such an extent that it lessened the amount of work the subject was able to perform.

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### Food Adulteration in Bradford

was referred to at a meeting of the Bradford City Council. The quarterly report of the city analyst showed that during the quarter ended December 31st



he analysed 94 samples. Of these 13, or 14 per cent., were adulterated, and 3 were of doubtful quality. Six samples reputed to be butter consisted of margarine, and, in addition, one of these contained  $22\frac{1}{2}$  grains per pound of boric acid. A "golden syrup" was found to consist of two parts of commercial glucose or "starch sugar" and one part of treacle. Of the 19 samples of drugs submitted, 5, or 26 per cent., were adulterated or deficient in strength. One was a "camphorated oil" with only one third the proper amount of camphor, and this was dissolved in mineral oil instead of in olive oil. During the year, 281 samples of foods and 56 of drugs were analysed. Thirty-three different classes of food and drugs were examined, and of the drugs no fewer than 10, or 22 per cent., were adulterated or deficient in strength. Out of the total 327 samples analysed, 33, or 10 per cent. were adulterated.

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#### Food Adulteration in the West Riding.

At a meeting of the West Riding County Council, Mr. Harold Hargreaves was appointed as the officer charged with the execution of the Sale of Food and Drug Acts and the Margarine Act within the West Riding. The public analyst in his quarterly report showed that he had analysed 379 samples. The articles included—butter, 54 genuine samples, 1 of suspicious quality and 1 sample of reputed butter which consisted of margarine; and genuine samples of lard, 21; flour, 2; oatmeal, 1; sago, 1; yeast, 1; sugar, 3; tea, 1; coffee, 13; mustard, 2; pepper, 14; ground almonds, 1; ground ginger, 7; linseed meal, 1; cheese, 5; and margarine, 1. One sample of ground ginger was of suspicious quality. With respect to camphorated oil he said:—"The result of an examination of a considerable number of samples has shown that the remedy is often very carelessly prepared. Instead of being composed of 21 per cent. of camphor and 79 per cent. of olive oil, as in the case of an article prepared in accordance with the directions of the 'British Pharmacopoeia,' the camphor is often very deficient in amount, with corresponding reduction of the activity of the preparation, while for olive oil other and cheaper oils, such as cotton and mineral oils, are sometimes substituted. There is no excuse for thus tampering with the composition of an official remedy. The camphor is not liable to evaporation, as is sometimes alleged, and the preparation can be kept for an indefinite time without deterioration."

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#### The Superiority of Margarine over Butter.

EVEN in the quantity of preservative it appears that margarine is better than butter. Mr. Collingwood Williams, Assistant Public Analyst for Liverpool, etc., in his evidence before the Committee on Preservatives, stated that the percentage of boric acid found in margarine was less than in butter. We, no doubt, shall soon see margarine sold on its merits as purer and more healthful than butter, and a foolish ignorant prejudice die.

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#### The Purity of Food in Leeds.

It is far from satisfying for the people of Leeds that no less than 33 per cent. of the samples of milk analysed during the last quarter of 1899, by Mr. Thomas Fairley, the Public Analyst, were unsatisfactory, i.e., of inferior quality, and that milk should be found with 30 per cent. of its cream abstracted, and 11 per cent. of water added. Mr. Fairley mentions that the average of ten milks from single cows was—total, solids, 13.93, and fat, 4.31 per cent., but, whilst the Somerset House standard is 3 per cent., there is obviously a large margin for the fraudulent sale of the unsatisfactory milks. The butter analysed yielded the astonishing result of 55 per cent. being adulterated. It is apparently not from lack of vigilance on the part of the Inspector, so perhaps the Magistrates may see if they can cope with the scandal by increasing the penalties.

#### Unsound Condensed Milk.

THE Poplar and the Limehouse Boards of Works have agreed to point out to importers and of dealers (wholesale) in condensed milk the desirability of having had condensed milk removed and destroyed by the Board as trade refuse to prevent the possibility of its being sold or used for the purposes of human food. After this it is more than likely that magistrates will be asked to enforce the extreme penalty of prison upon traffickers in this class of rotten food in future cases.

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#### American Scientific Evidence on Preservatives.

DR. MORRISON, Health Commissioner of Indianapolis, made ninety tests of the effect of preservatives on the digestive processes. He found that they interfered seriously with animal digestion from one to two hours. Their use is not required in clean, honest business. No other kind of business is entitled to the protection of law. Preservatives put a premium upon uncleanness and carelessness. There is serious need of legislation to prohibit their use. They are prohibited by specific acts in Wisconsin, Connecticut, Ohio, Massachusetts and New York.

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#### The Motor Car and Public Health.

If any convincing proofs were needed of England's reverence for the old fashioned, with its waste of money and of business possibilities, one would only need to point out to the scant use yet made of the motor car. The *Medical News* pertinently observes in what unexpected directions new inventions may be productive of important results, is frequently a matter of great surprise. Who could have foreseen that the introduction of gas as an illuminating agent would work a revolution in materia medica and therapeutics? Yet this has actually happened. The much-used, also much-abused, analgesics and antipyretics are mainly coal-tar derivatives obtained from a by-product.

Equally surprising will doubtless be the achievement of the horseless vehicle in its effect upon the healthfulness of cities. In an article in the December number of the *Automobile Magazine*, J. J. Walsh points out that there are certain diseases whose incidence in our great cities will greatly diminish as the results of the absence of the horse from city streets. Tetanus will very probably disappear completely. It is on horse fodder that the germ is introduced into cities and the principal sources of its dissemination are the intestinal discharges of the animal. With the elimination of the horse, therefore, will doubtless disappear also that dread disease.

There are certain indirect effects, moreover, which seem worthy of consideration. The disposing of horse droppings constitutes the principal work of the street cleaning department and their absence will greatly simplify the cleaning of streets. Then with the advent of the horseless vehicles universally comes the rubber tire. This means absence of noise and freedom from its ceaseless wear and tear upon the nervous system.

From a sanitary point of view there is every reason for those who are interested in municipal health to encourage in every possible way the automobile movement. Accidents from the new motive power will undoubtedly occur. The foolish and careless will abuse a good thing despite every precaution. Mechanism will sometimes get out of order.

That motor cars would cause as many accidents as at present is very doubtful, and their advantages are obvious. One need only consider the Strand on a hot summer day when powdered horse dung is being inhaled by thousands, causing irritation to eyes and nostrils. From the public health point of view, motor cars should be in use by every municipality, whilst every humanitarian would rejoice to see our streets freed from the sickening sight of fallen, maimed and over-strained horses.



## Notes for Dairymen.

### Differences between Creamery and Dairy Butter.

THE sole reason why creamery butter commands higher prices than the dairy butter made by the individual farmers is that the methods of making it are superior to those adopted by the farmers. In many respects, says *Farm and Home*, the farmer has better material to begin with than the creamery, for the latter has to obtain its milk and cream from various quarters, and then to mix the various lots together. The milk and cream raised right on the one farm and under the eye of the one farmer must naturally be superior to those mixed lots used by the creamery. In the latter there must be mixed a certain amount of inferior cream, which barely comes up to the standard required, while other lots are of superior quality. The quality of creamery butter is steadily increasing, while that of dairy make remains about the same. There are many qualities of the latter, and so there were years ago. The chief drawback to the dairy makers is that they let their milk and cream stand so long that the latter undergoes chemical changes which more or less injure its value. The creamery butter, however, is made from cream before it has reached the sour stage. By waiting for several days the average farmer loses something in his raw material which cannot be replaced by any skill in manufacture. If the same cream were taken to the creamery, probably no better butter would be turned out. Generally the farmer suits his own convenience about churning his own cream. Sometimes it is postponed owing to other work, and again owing to the fact that there is not sufficient cream to make it worth while. Consequently the cream has to stand some time and undergo the chemical changes alluded to. Such butter is more or less full of butter-milk, and most people refuse to accept such product. They have learned to choose creamery butter always, and the result is that dairy butter receives a set back. There are many farms where as fine dairy butter is made as any that comes from the creamery. These farms, however, are large ones, and plenty of cows are kept to make it possible to churn cream every day. The cream is collected and churned by the time it is 24 hours old, and the result is that some of this extra dairy butter is just as good as, and in some instances a little superior to, the finest creamery. These dairymen are progressive and intelligent butter-makers, and they put their butter up in neat packages, and hunt up their customers all over the district. Their methods are not secret. They can be adopted and followed by any dairyman or farmer, especially on a large scale. In the first place, the butter at these farms is churned at the point of pleasant acidity, and not when the cream is sour. The churn is stopped when the butter is in the granular form, and the butter-milk washed out with weak brine.

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### Excess Water in Butter: A Guileless Magistrate.

TWENTY-NINE per cent. of water instead of the 11 to 13 or 14 per cent. present in honestly made butter would, considering the many times this question has been thrashed out before magistrates naturally lead one to expect a smart fine upon the vendor, but at Thames Police Court on January 12th, Myer Miller, 9, William Street, St. George's, E., appeared to answer an adjourned summons for selling butter adulterated with excess water. Mr. G. H. Young prosecuted, and said there was 14 per cent. of water over and above the 15 per cent. allowed in the manufacture of butter; but Mr. Bedford, who defended, contended that adding water did not fraudulently increase the weight or measure, and in support of his contention he quoted the case of *Bosomworth v. Bridge*, the only one he

had been able to find on the subject. The Analyst (Mr. W. C. Young), on behalf of the prosecution, was called, and stated it was not necessary to have water in the manufacture of butter. Mr. Bedford called Miss Elsie Geach, of South Fleet, Gravesend, who stated she had taken first prizes at several agricultural shows for butter-making. Water was a necessary ingredient for the making of butter for commercial purposes. By Mr. Young: She had been at the Institute at Reading. Mr. Dickinson: The very best possible place to learn. Witness, continuing, said she had never seen a machine which made it unnecessary to use water in the making of butter. Further evidence was given, and Mr. Dickinson, in giving his decision, said he found that water had been added for the purpose of manufacturing butter for commercial purposes, and not with a fraudulent intent. Therefore the summons would be dismissed, with £3 3s. costs.

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### Important High Court Decision, *re* Milk.

If a milk contains 3.55 per cent. of fat, ought it to be looked upon as adulterated? The Stratford Magistrates at Petty Sessions thought that although the analyst's certificate declared the milk contained 12 per cent. of added water and the charge was proved, the milk was so good that they would not convict. Justices Channel and Bucknill decided in the Queen's Bench, on January 20th, that they must convict, and gave the same judgment in another case of a similar character. Full particulars appear in our Legal columns.

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### Points About Sampling in Milk Adulteration.

THERE was recently some trouble at Flint over a milk analysis, and the analyst, Mr. W. F. Lowe, thus delivers himself on the subject in the *Flintshire Observer* :—

"The following facts which have been overlooked in the letters in reference to this case, should, I think in fairness to all concerned be stated.

"On the first occasion when the Inspector went to take a sample from the cows, nothing whatever was said as to the milk sold, being from one cow only; also on this same occasion the Inspector pointed out to the defendant after he had milked the first cow that he had not milked her dry. The Inspector in his evidence says distinctly that he tried the cow himself and found her full of milk, he then made the defendant go back and milk her dry.

"Now this is a fact of the utmost importance, for it is an old trick when milk direct from the cow is wanted for analysis, to supply the Inspector with the first portion only, or what is known as fore milk. It is a well known fact that the first portion is always very poor and that the last part is the rich portion of the milk, and by neglecting to milk the cow dry a very poor milk can be obtained.

"The defendant's wife admitted in her evidence that prior to September 1st, she had always mixed the milk from the two cows.

"Another fact of importance is that a fair average sample of milk from the two cows would have required the addition of 13 per cent. of water, and the removal of 25 per cent. of the cream in order to reduce it to the quality of the milk condemned.

"The defendant's solicitor objected altogether to my giving evidence in the case (for what reason I do not know), and did his utmost to prevent my doing so, and it was only after he had made several mis-statements as to



milk standards, that I was able to be called to contradict him. As Public Analyst for a large district of over 20 years' standing, I may be allowed, I think, to know better than a Veterinary Surgeon what is the standard. The standard for fat in milk was fixed many years ago at 3 per cent., and this is the standard universally employed by Public Analysts.

"As to Mr. Edwards' method of calculating the amount of cream removed, all that can be said about it is that it is original. I have employed the method always used by Public Analysts.

"Mr. Edwards has been referred to as an authority on milk, but I should like to mention an opinion of a higher authority, viz., the Professor of Chemistry at the Royal Agricultural College. I had furnished him with the full newspaper reports of the case and copies of my figures, and in a letter from him he says:—'I was glad to see you got a conviction against the man who possessed such a wonderful cow.' The wonderful cow referred to is the red cow, as the milk from this cow is really much more remarkable than that from the white cow; and referring to it, the Professor says:—'I do not know of a sample of genuine milk with over 8 per cent. of fat,

especially from a shorthorn; it should be a gold mine to Mr. Hughes.'

"The defendant's solicitor stated that it was not an offence to sell milk, no matter how much below the standard, so long as it came straight from the cow.

"This is not the opinion of the Local Government Board. The following is an extract from a letter by the secretary on a somewhat similar case:—'It would be open to the person selling the milk to forward evidence that it had not been watered. It would then be for the magistrates to decide whether an offence had been committed against the Food and Drugs Act by the sale to a purchaser asking for milk of a sample far below the quality of the articles commonly known under that name.'

"One other fact in conclusion. The white cow from which the condemned sample was said to be obtained, was stated by the principal witness for the defence to be suffering from tuberculosis. As this disease is very frequently contracted by the use of such milk, it is an extraordinary defence that it is legal to sell milk far below the average quality, which is also obtained from a cow suffering from such disease."

## Notes for Grocers.

### Weighing Paper with Sugar.

OUR readers in the grocery trade will do well to read carefully the decision of the Staffordshire Stipendiary, which will be found reported in our legal columns.

Hitherto it has been the custom with many thousands of traders to weigh the paper with sugar, but in the view of Mr. Neville, the Staffordshire Stipendiary, the practice is illegal. The decision based on a High Court one is, we think, unassailable. The plea that the sugar does not afford enough profit to give paper away is bereft of any force, and should any grocers be found weighing paper with tea, sugar, or any other articles in future, they may certainly look for prosecution and conviction.

If this case leads to more concerted action amongst grocers to sell sugar at a fair profit instead of a cut-throat rate it will, in the long run, be of benefit to the trade.

### Is Your Lime Juice Pure.

As illustrating the myriad pitfalls into which grocers may unwittingly fall, a statement by Professor Thorpe is of great interest. The professor is a very eminent scientific man, he is head of the Government laboratory at Somerset House, and a member of the Food Preservatives Enquiry Committee. At the sitting of Committee on January 18th Professor Thorpe rather startled a witness and his hearers by casually observing that out of 75 samples of Lime Juice analysed in the Government laboratory no less than 88 per cent. contained boracic or salicylic acid. This is a point of grave importance to grocers, because whilst scientific experts differ re boracic acid almost every one condemns salicylic acid as injurious to health, and the new Food and Drugs Act inflicts fine or imprisonment for this offence at the option of the magistrates. We have reason therefore for asking our grocery trade readers "Is your lime juice pure?"

## Reports and Analyses.

### Vermouth. What it is.

It is by no means a matter for congratulation that the practice of taking "appetisers" has greatly increased in England during the past few years, introduced mainly through that brutalized class of our population, the members of the Stock Exchange. The disgraceful spectacle afforded the élite of our legalised "gambling hell" some days ago, when some fifty of its blackguards knocked down and kicked one foreign member, and when he was stunned, bruised, and helpless, again brutally assaulted him, shows plainly the price the morale of the English people is paying to-day for its worship of the Barnatos and like scum of the earth.

When the observer—hating politics, big endians and little endians alike—reflects that it is for this class of cowardly rogues and their craven congeners cowering in Cape Town—"Outlanders" who take good care to be "out" of the way when brave English, Irish, Scotch, and

Welshmen are fighting for England's honour—that we are now at war, our prestige at stake, and the certainty before us of taxes at a ruinous rate, with bad trade, and the evils that follow in its train, it may be worth while to study somewhat this question of "Appetisers."

It is a curious coincidence that it was the Methuen Treaty of 1703 which caused John Home to write:—

"Firm and erect the Caledonian stood,  
Prime was his mutton, and his claret good;  
Let him drink port, an English statesman cried,  
He drank the poison, and his spirit died!"

And that it should be whilst smarting under the present Lord Methuen's disaster, the "appetiser" imbibing cads of our Stock Exchange should have shown their quality by brutally assaulting *en masse* one helpless man. This is not, however, surprising, when one examines the kind of poisonous mixture the blackguards swallow. One



French Vermouth, now much in fashion amongst them, has an average composition of one ninth of its bulk alcohol 85°.

Dry White Wine.  
Muscatel Wine.  
Bitter Orange Peel.  
Wormwood.  
Camomile.  
Water Germander.  
Florentine Iris Root.  
Centuary.  
Peruvian Bark.  
Aloes.  
Cinnamon.  
Nutmeg.  
Raspberry Juice.  
Fish Glue.  
Helenium.  
Calamus Odoratus.  
Holy Thistle.  
Angelica Root.  
Gentian.

It would be hard to imagine anything better arranged than this to develop and bring to the surface every brutal instinct a man may possess. It nearly equals the celebrated "Alexander's Golden Antidote," "a sample," as Mark Twain says, "of the earthquakes which the old-time doctor used to introduce into his patient when he could find room. It was good for pretty nearly everything." It is probably the old original first patent medicine. It is built as follows:

"Take of afarabocca, henbane, carpobalsamum, each two drams and a half; of cloves, opium, myrrh, cyperus, each two drams; of opobalsamum, Indian leaf, cinnamon, zedoary, ginger, coftus, coral, cassia euphorbium, gum tragacanth, frankincense, styrax calamita, celtic, nard, spignel, hartwort, mustard, saxifrage, dill, anise, each one dram; of xylaloes, rheum, ponticum, alipta moschata, castor, spikenhard, galangals, opoponax, anacardium, mastich, brimstone, peony, eringo, pulp of dates, red and white hermodactyls, roses, thyme, acorns, pennyroyal, gentian, the bark of the root of mandrake, germander, valarian, bishops weed, bay berries, long and white pepper, xylobalsamum, carnabadium, macodonian, parsley seeds, lovage, the seeds of rue and sinon, of each a dram; of pure gold, pure silver, pearls not perforated, the blatta byzantina, the bone of the stag's heart, of each the quantity of fourteen grains of wheat; of sapphire, emerald, and jasper stones, each one dram; of hasle nut two drams; of pelitory of Spain, shavings of ivory, calamus odoratus, each of the quantity of twenty-nine grains of wheat; of honey and sugar a sufficient quantity." "Serve with a shovel," the great humanitarian, Mark Twain, asks. "No, one might expect such an injunction after such formidable preparations; but it is not so. The dose recommended is the quantity of an haslenut," only that; it is because there is so much jewellery in it, no doubt." For the health of its consumers it is a pity there is no "pure gold, pure silver, pearls not perforated, sapphire, emerald and jasper stones in Vermouth. If there were, the drinking of this abomination would not be spread broadcast by our Stock Exchange cads: they would not drink it, but pocket it."

## Proceedings of the Departmental Committee on Food Preservatives.

THE Committee resumed its sitting on January 15th, when Sir H. Maxwell (chairman), Professor Thorpe, Dr. Bulstrode, and Dr. Tunncliffe attended.

### DR. RIDEAL'S EVIDENCE.

Dr. S. Rideal, Fellow of the Institute of Chemistry, said that in conjunction with Dr. Fullerton he had studied the question of preservatives and had made a number of experiments. He had experimented with a view to finding the actual amount of boracic acid and borax on the one hand, and formaldehyde on the other hand, necessary for preserving purposes in milk. As the result of those experiments they came to the conclusion that one part in 50,000 of formaldehyde was sufficient to preserve milk even in warm weather for twenty-four hours. With regard to boracic acid they used a mixture of boracic acid and borax, which had been found commercially to be the best mixture to employ, instead of borax or boracic acid alone, and found that about one part in 2000, was the quantity which was sufficient for preserving milk for at least twenty-four hours in warm weather. Having arrived at these conclusions they then attempted to ascertain whether those quantities had any effect upon food—the digestibility of food, when mixed immediately before the food was consumed, or when kept in contact with the food as it would be as a preservative, and the food then being consumed at the end of twenty-four hours. As the result of the experiments they made, they came to the conclusion that the effects of the quantities of preservatives he had mentioned were inappreciable on the digestibility of food even after the preservative had been in contact with the food for twenty-four hours. The quantity of food on which they experimented was the quantity which would be usually taken by a consumer. There was a slight retarding process, but it was very slight, and if the food had been allowed to digest for a little longer time the presumption was that all the food would have been as fully digested as food containing no preservative. The experiments were determined in glass. He had followed up these experiments by some others with a view to defining what he meant by an appreciable extent. He tested the effect of boracic mixture and formaldehyde upon the digestion of bread crumbs, and compared the effect with the effect upon the digestion of such condiments as salt and Worcester sauce, and also infused tea and alcohol. They found that alcohol had less retarding effect than

formaldehyde, but more than that of boracic acid. They also found that tea had a greater retarding effect than formaldehyde.

Professor Thorpe asked witness whether, considering that the change in milk was very slight after keeping nearly twenty-four hours without preservatives, it was worth adding any preservative at all.

Witness said the difference depended on what they might call sour milk, and he put it that the presence of 2·5 per cent. of lactic acid in milk would cause the rejection of such milk as being sour.

Professor Thorpe: Do you seriously tell the Committee, in view of the figure you have put before them, and your statement that 1 in 2000 of boracic acid and one part in 50,000 of formaldehyde are proper and sufficient to preserve it for twenty-four hours, that it is worth anybody's while to use these preservatives?—I am not a milk vendor, but it is apparently worth their while.

But on these figures is it worth while; I take it on your own showing?—I can only say that there is a point at which milk curdles, and I believe it is about 2·5, and it looks as if to keep milk twenty-four hours one must ensure that the acidity must not reach more than 2·5.

Professor Thorpe pointed out that no two independent experiments arrived at the same point at which the curdling commenced. His impression from the figures of the witness was that the presence of preservatives in milk in the twenty-four hours had no effect in retarding acidity, and that therefore it was not worth while using them.

### MR. CASSAL'S EVIDENCE.

Mr. Charles Cassal, public analyst, said it was necessary that the position of the public analyst in regard to preservatives and colouring matters should be clearly defined by the Legislature. Under the provisions of the Sale of Food and Drugs Act public analysts were required to report whether the articles submitted to them were adulterated or genuine. In order to do that the public analyst must have a definition, and if that definition were not provided for him he must make one. It was plainly undesirable that the duty of deciding what should or should not be declared in matters so intricate as the use of preservatives and colouring



matters should not be placed on the shoulders of individual public analysts. It had been assumed by the Legislature that there could be no doubt arise as to what article used in food was injurious to public health, but it was found to be a most difficult matter to prove in a court of law that a certain article was injurious. There were certain articles mixed with food as to which there was no positive evidence that injury would result to health, although on theoretical grounds it might be assumed that they were injurious. It would be the business of the Legislature to see that the necessary experiments were carried out and rules laid down.

Sir H. Maxwell: Is there any definition of poisons or drugs? Not as far as the Sale of Food and Drugs Act is concerned.

Professor Thorpe said that its presence in the "British Pharmacopœia" would define a drug.

The Chairman: Is there any corresponding definition as to poisons? Not as far as the Sale of Food and Drugs Act is concerned. I believe there are definitions of poisons in the "British Pharmacopœia."

Continuing, Witness said that the Select Committee of the House of Commons on Food Adulteration came to the conclusion that the vital provision in the Act of 1875 was to prevent the purchaser from being supplied with an article the composition of which differed from the article he desired to purchase. The purchaser could not be supposed to know, either on account of cheapness or otherwise, that the article was not the article desired, and the Committee said the Act was passed to protect the public. The public were entitled to a full disclosure of the substance used in the preparation of food; and, further, the manufacturer of pure articles must be protected from unfair competition. The public analyst was concerned solely in the public interest, and could not take into consideration the convenience or the pecuniary interest of any particular trade. In consequence of the difficulty of proving injury to health there was great difficulty in carrying the Act out. In regard to preservatives and colouring matters, the public authorities had been put to great trouble and expense in order to prove offences. That was within his own knowledge.

The Chairman: Have you any experience of prosecutions with regard to these offences? A number.

Of the great uncertainty with regard to prosecution? There is always great uncertainty in these cases, because the difficulty of proving injury to health always comes up, and the authorities are unwilling to spend the necessary money to ensure the assistance of a sufficient number of expert witnesses as a rule. A case has been heard recently, of which you no doubt have seen the report, and the defendant is going to appeal. It is the case in which clotted cream contained boracic acid? It was one of my own cases, and I have the facts relating to the conviction if you would like them.

You have quoted the Committee of the House of Commons on the Sale of Food and Drugs Act, 1875, as having reported that the vital provision of this Act was to prevent the purchaser from being supplied to his prejudice with an article whose composition differed from the composition of the article he desired and had demanded. Are you aware that the difficulty of the magistrates in these prosecutions arises from the words "to his prejudice"?—I do not think that much difficulty arises about that now. Some years ago, prior to the passing of the amending Act of 1879, these words were sufficient to cause a failure of prosecution; but although of course they are constantly used now on behalf of defendants, if the article is proved to the satisfaction of the magistrate to be adulterated I do not think, in my experience at any rate, that he attaches very much importance to those particular words.

Professor Thorpe: That is your individual experience?—Yes.

But we have had the evidence of many officials that they find difficulties, and have declined now to bring cases on the ground of being unable to prove prejudice?—I have not noticed in my own experience that very much attention has been paid to them. Of course I speak carefully on that point because it is really a legal question to which, perhaps, a public analyst does not always pay very keen attention. If injury to health were proved, the magistrate would at once regard it as being to the prejudice of the purchaser.

That point came out two or three times. We have not infrequently heard that public analysts have declined to take action on account of the difficulty of proving prejudice?—There are a great number of difficulties in these cases, and some public analysts are very chary about taking cases, but that does not apply so much to the authorities with which I am connected in London, who hold rather strong views in connection with adulteration. Their chief objection is on the score of expense. Continuing, witness said that the admixture of preservative chemicals with articles of food for the purpose of keeping them in a saleable state, and also for the purpose of enabling stale, inferior, and even actually bad articles to be palmed off on the public as good and fresh, was a practice which had become very widespread. It was alleged by the apologists of the practice, and by those who were obviously interested in its unrestricted continuance, that the "public demand" for many articles of food could only be met by the use of preservative chemicals. Apart

from the question of cheapness that argument was disposed of by the fact that the articles in question were largely and successfully sold without the admixture of any preservative chemicals at all. If it was held to be necessary that preservative chemicals must be used in order to provide those articles at a sufficiently cheap rate to meet the demand of a large proportion of the population, then a full and particularly clear disclosure of the nature and amount of the preservative chemical used, and of its possible effects, should be compulsorily made to the consumer.

Do you think—apart from the question of digestion—that it is possible to conduct the milk supply of an enormous town such as this without the use of preservatives at all?—I think so, undoubtedly. Continuing, witness said he based that opinion upon information which he had obtained in the course of his official work and from large milk-dealers who sold milk in his districts. One large dairy company had stated that they never used preservatives either in their cream, butter, or milk. It was important to remember that the substances used were not themselves food (with the exception of common salt, in moderate amount), and that they must be regarded as drugs. The substances chiefly employed were boracic acid and borax, or mixtures or solutions of these substances: salicylic acid, and formaldehyde. Benzoic acid, probably combined as benzoate of soda, was used in some cases, but to a very much smaller extent, and a preparation known as borofluoride appeared also to be used in certain cases. In his opinion any of these substances when present in food products must be regarded as "foreign ingredients" within the meaning of the Acts, and their unacknowledged presence constituted adulteration, apart from any question as to their injuriousness. The legalising of the use of preservative chemicals in certain articles of food, as was done, for instance, by the Margarine Act, could not affect the conclusions to be drawn from the fact that these substances were not normal constituents of food products.

Have you had any experience of foreign and colonial butters?—I have had a number of butters to examine, but no information is given to the public analyst as to the source of the samples submitted to him, and therefore I am unable to say which were foreign or which were English. They reach the public analyst under a number, and one does not know the origin of the sample.

I do not understand you to advocate the prohibition of the use of preservatives—merely their declaration?—My desire is to advocate the prohibition of preservatives rather than to allow them to be used even if disclosed; but if the Committee does not see its way to recommend their prohibition, the next best thing is to make a disclosure.

Witness, continuing, said that on scientific grounds he objected to the use of chemical preservatives in food, for the following reasons:—(1) When a preservative chemical is mixed with a food product it is added in sufficient amount at least to extract its specific effect on the food, and is liable to be added in much larger amount than is necessary to get this effect. (2) If a preservative chemical is present in a food in sufficient amount to exert its specific effect on that food, that fact is in itself sufficient to show that the digestion of food by the consumer must be injuriously affected, and such admixtures must therefore be regarded as "injurious to health." He was of opinion that the use of preservative chemicals was unnecessary so far as the public advantage was concerned, while no doubt their use might be advantageous to certain manufacturers and vendors for pecuniary reasons. The proper legitimate methods of preserving food when preservation might be held to be required were probably the more expensive methods of refrigeration and sterilisation, which had been shown to meet all reasonable requirements. He considered that the use of any known preservative chemical other than the common salt (the presence of which was at once detected by taste, and which was itself a food and an important constituent of the body) was unnecessary and objectionable whatever quantities might be employed. In 1891 the Vestry of Kensington decided to obtain the opinions of certain eminent medical authorities upon the use of boracic acid for the preservation of articles of food. The medical authorities consulted were the late Sir Andrew Clark, Sir Henry Thompson, and Dr. Lauder Brunton. The replies, which chiefly related to milk, were read by Mr. Cassal.

On his own personal view boracic acid in butter constituted adulteration. He had found boracic acid (present either as such, or as a mixture with borax, or as borax) in sausages, meat extracts, meat juices, potted meats, potted fish, potted caviare, milk, skimmed milk, separated milk, butter, margarine, wine, cream, potted cream, Devonshire cream, Salicylic acid had been found in meat juices, syrups, jams, lager beer, wines, British wines, lime-juice; and formaldehyde in milk, skimmed milk, and separated milk. Benzoic acid, probably present as benzoate of soda, in non-alcoholic wine and medicated wine. In milk the highest amount of boron trioxide he had found was 0.0821, equivalent to 100.7 grains per gallon of crystallised boracic acid. With regard to clotted cream the amounts were considerably higher, the largest amount he found present in one sample being 0.515 per cent. boracic acid, which was equivalent to about 35 grains per pound.

That trade would be considerably interfered with, would it not? If preservatives were not introduced?



Yes. Well, it is a trade question, but according to the evidence of the Aylesbury Dairy Company there would be no difficulty.

The question would not be so important for the public in the matter of cream, would it, seeing that cream would not be taken in such large quantities by the consumer? Well, I do not think it would be so important as in the case of milk, which of course is so largely used by infants and invalids, but our medical witnesses in the recent clotted cream case brought forward the view that inasmuch as cream was now prescribed by medical men in the place of cod-liver oil, and also prescribed by medical men for mixing with milk in order to enrich it for feeding children, there were special dangers attaching to the use of boracic acid in cream. He was of opinion that the practice of adding the solution of formaldehyde, known by the name of formalin, to milk was considerably on the increase. He regarded formaldehyde as a dangerous substance. The conclusion to be drawn from his results and from experiments made by others was, broadly speaking, that formaldehyde even in very minute solutions profoundly affected some of the constituents of food materials in such a way as to render them practically insoluble and incapable of digestion. He believed that the people who sold the formalin at one time recommended their customers to use 1 in 10,000, but they might have given different directions since.

Have you anything to tell us about colouring matters?—There are considerable difficulties attaching to this question in consequence of the fact that there are many cases of colouring which may be looked upon as to a certain extent legitimate, either on account of long custom or on account of what may be called "trade continuity." For instance, the colouring of genuine butter with a small amount of a colouring material known to be uninjurious can hardly be regarded as objectionable, but the colouring of margarine in order to make it appear like genuine butter is an obvious fraud. The colouring of cheese with an innocuous substance may also be looked upon as legitimate, but the colouring of milk to give the impression to the purchaser that the milk is richer in cream than it really is, is another plain example of fraud. The colouring of beet-sugar crystals to imitate genuine cane sugar, or so-called Demerara sugar, is another example of a practice which has been extensively followed, and which serves the purposes of fraud. Colouring with substances which are known to be injurious in themselves, or in regard to the injuriousness of which there is doubt, should be absolutely prohibited. Cases in point are—the colouring of preserved vegetable with sulphate of copper, and the colouring of sweets with ferruginous earthy matters, and with aniline dyes of inferior manufacture.

Why is it a more obvious fraud to colour margarine to make it appear like butter than to colour white and presumably inferior butter to make it appear like a rich butter? I do not suppose that because a butter is white it must be held to be of inferior quality.

I would not go so far as that; but colour is a sign of quality in butter, in many instances, is it not? I do not actually know that any definite conclusions can be drawn from the colour.

Well, it is taken by the public to intimate a rich butter? Very possibly; but of course the practice of colouring butter with an innocuous colouring matter is a very old one, and would come under the term "trade continuity," whereas in the case of colouring margarine there can be but one object in colouring it to look like butter, and that is to make it appear to be butter.

The dye used some years ago for colouring Demerara crystals was easy of detection, as it used to become pink on the application of certain acids, but the manufacturers found that out and substituted other dyes not so easily found out. By that means beetroot sugar was artificially dyed, and beetroot sugar so dyed sold as Demerara. The dyeing process was of a very complicated character; some of the dyes used were known to be poisonous, and the action of others was unknown. With regard to butter, he had taken out his figures for 1898 and 1899 as to the samples of butter submitted to him in those years from one of his districts. In 1899, out of sixty-seven samples submitted, forty-seven contained boracic acid; and in 1898, when only nine samples were taken in the district, three were found to contain boracic acid. In another district in 1899 out of sixty-four samples of butter taken forty-two contained boracic acid, and in 1898 out of fifty samples twenty-seven contained boracic acid.

The Chairman: These were samples of fresh butter with no salt? I do not know that. They were simply samples of butter submitted in the ordinary way under the Act—samples purchased as butter.

Professor Thorpe: Many of which turned out to be margarine I suppose?—No; these are samples of butter not otherwise adulterated. But it is a common thing to find boracic acid in mixtures of margarine and butter, and also in margarine itself.

Witness further gave the particulars of the clotted cream case, in which Messrs. Hudson were the defendants, at Westminster Police Court, and said that it was a case in which apparently all the evidence which could be brought forward for the defence had been brought forward. The defendants had given notice of appeal.

Dr. Bulstrode: You are opposed to the use of any preservative other than common salt?—Yes.

Saltpetre also?—Yes.

Dr. Bulstrode: And if all preservatives cannot be done away with their substance should be stated?—Yes; a very full and clear statement should be given.

And also their probable effects?—Yes.

Would not that be rather difficult in some cases?—Since the people who use these things and advocate these things assert that there is no harm attaching to them there is no doubt they have good grounds for going on, and I would suggest that they should give these grounds on the label.

#### MR. DE HAILES'S EVIDENCE.

Mr. De Hailes, analyst to the Dairy Trade Protection Society, states the time taken to get milk from the provinces to London, which he considered necessitated the use of preservatives. He thought a boron base preservative was the safest thing to use. His experience was that an enormous amount of preservative was used in London, but he could not say whether 50 per cent. of the milk coming to London contained preservative.

The Chairman: Would you go so far as to say that it is impossible to supply London with milk from a greater distance than forty miles without the use of preservatives?—I would not exactly say that, but I say unhesitatingly that the milk trade as at present carried on could not be carried on without the use of preservatives.

Would you see any objection for the vendor to make a declaration?—I think it is impossible.

The same objection would not apply to the butter trade; you would not object to a declaration there?—I think it would be extremely difficult, as the vendor would have to tell every customer that his butter contained preservative.

#### MR. ALEX G. R. FULLERTON'S EVIDENCE.

On January 16th, Mr. Alex G. R. Fullerton gave evidence. He said he was Bacteriologist to the Middlesex Hospital and Fellow of the Royal Chemical Society, and he thought preservatives in milk were necessary to a large extent, especially in the case of small retailers who had to supply the poor, and who could not get rid of their surplus stock of milk. He thought the ordinary individual who took the small amount of preservative necessary to preserve milk would not be harmed, but in the case of invalids and children they might be harmed. Boracic acid in the amounts which might be taken by an invalid or a child was capable of producing toxic symptoms. He did not think that formaldehyde would produce toxic symptoms, but it might be less digestible, and on those grounds he thought the public should not be allowed to buy preserved milk without knowing that it was preserved.

The Chairman: Have you formed any opinion as to what is a safe amount of each?—The amounts I think which are safe for the average individual are 35 grains per gallon of boracic acid and about one part in 50,000 of formaldehyde. That was to say, assuming a pint of milk was taken per day. That was, he thought, enough to keep milk sweet for twenty-four hours.

Do you think the notification of the presence of a preservative is desirable from the public health point of view?—I think it is essential, so that the public might know whether it is fit for ordinary use. No trade interest ought to stand in the way at all. Milk which was preserved should be sold as "preserved," but he did not consider it necessary to state the nature or the amount of the preservative.

There are other articles of food besides milk which contain preservatives. Have you any experience of them? The only views I have are that they should come under the same regulations as milk—that if they are preserved the fact should be notified. I do not think, however, it is so necessary in the case of other foods as of milk to declare the presence of preservatives. Sterilization would undoubtedly assist in the preservation of milk, but the process was an expensive one, and raised the price of the article.

Then I understand generally you are in favour of declaration rather than prohibition? Yes.

Dr. Tunnicliffe: With regard to your suggestion as to the authorization of preservatives, what preservatives would you suggest should be authorised? I think that would be a matter for considerable inquiry.

I would take it that you are alive to the fact that a difficulty in that matter would be that the preservatives authorised would have to change from time to time? Certainly.

And you would agree that the same arguments would apply with regard to foods? Yes.

Professor Thorpe: Do you think in the general interests of the community if it could be effected it would be a very beneficial thing if the milk supply of London were sterilized? Certainly.



## MR. HARALD FABER PUFFS DANISH PRODUCE.

The next witness was Mr. Harald Faber, well-known as the persistent and pushful agent for the Danish Government. If it is possible to squeeze by any means an advertisement for Danish produce out of anything Mr. Faber is the man to do it. That he is a genius is unquestionable. No other could have kept up the Danish fiction of purity—none but a master could have for years avoided any *true* explanation of the enormous increase in Denmark's margarine imports and production. As mild as a pet lamb Mr. Faber looks, and as for guile his very aspect forbids the thought, but he gets his point home always, and that is laud Danish produce at the expense of English and Irish produce. Why Sir Herbert Maxwell and the rest of the committee permitted his evidence we do not know, but in it he contrived to pose Denmark as the guardian of the health of England's butter consumers by its prohibition of preservatives, to patronisingly refer to our home-made butters as inferior articles, to give a slap at English and Irish bacon by analyses, which stated the per cent. of salt in bacon (smoked) to be :

		Fat.	Outside meat.	Inside meat.
Danish "I.D.K." ... ..	—	3.75	2.18	
Harris's Wiltshire ... ..	—	6.21	3.10	
Oake, Woods & Co., Dorset	0.23	4.12	3.95	
Richardson, Irish ... ..	0.85	7.27	4.03	

Of course these were Mr. Faber's own analyses, but they were swallowed by a committee as a hungry gudgeon swallows a tid-bit. Then Mr. Faber gave his fancy a grander flight still by modestly mentioning that Denmark had laws against tuberculosis in cattle, after which he skimmed over the evidence of Mr. John Lovell (the largest dealer in butter in the world) and Mr. James Hudson, which pricked the Danish butter superiority humbug, and casually observed that Irish butter had a higher water percentage than Danish and generally patronised it and Normandy butter.

Professor Thorpe and his colleagues did not ask what becomes of the *twenty-eight million pounds of margarine* made in and imported into Denmark, and which goes into this *pure* Danish butter in percentages of 10 or so—too low for analysts to condemn, neither did the committee remember the results of independent visits by persons from this country to Danish dairies, and the filthy condition in which they found Danish dairy farms. We are bound to say of Mr. Faber that, however much his country pays him, he earns it.

We were not surprised that he made no remarks anent the HOAX OF THE 50,000 PACKAGES OF DANISH BUTTER FOR TOMMY ATKINS.

## MR. A. GILBEY'S EVIDENCE.

Mr. Alfred Gilbey, of the firm of Messrs. W. & A. Gilbey, wine merchants, said that he had been asked to give evidence as to the use of preservatives in wine. The only preservative that it was necessary to use in wine imported to this country was brandy, which was distilled from the grape, and that was only used in port, sherry, and Marsala. In the wine-producing countries the wine was so cheap that there was no reason for any adulteration. They had heard of salicylic acid being used for red wines, but in their contracts his firm made it a condition that nothing of the kind should be added. Its use was absolutely prohibited in some countries. The object of introducing it at all would be to use less spirit. It was easily detected, and he knew no wine in England in which it was used. They saw a good deal in the press about cheap wine being made of raisins, and so on, but it never came to England. It was simply a cheap wine made for large consumption amongst the working-classes, where wine was drunk as beer was in England, and it would be quite unpalatable in England. His wine was frequently analysed for the protection of the firm, but they never found any adulteration.

By Professor Thorpe: He saw no reason why a good sound wine should contain salicylic acid. He thought no merchant in England would prejudice his wine by allowing salicylic acid to be added. He knew of fictitious wines sent from Hamburg, and he had been offered claret at 6s. 6d. a dozen. He believed that wine was produced on the banks of the Thames—(laughter)—but he did not know what it was made of. He did not think it contained any grape juice. (Laughter).

By Dr. Bulstrode: There was very little colouring matter used in the trade at all. He was not prepared to say exactly what colouring matters were used in liqueurs, but he should think burnt sugar or glucose. He had never heard of salts of copper or nitric acid being used. He should say that wines sold in this country at 1s. a bottle were as pure and wholesome as the most expensive wines. There was no reason why they should contain any preservative or any added colouring matter. His firm did not allow any preservatives in any of their wines, and from time to time they sent samples to be analysed by Mr. Cassal and Professor Dewar.

By Professor Thorpe: They did not send their wines to be analysed for the purpose of ascertaining their alcoholic strength—that they knew, but simply for their own safety. Their wines went into every village and town in the country, where they would be tested by analysts, and if they contained preservatives they would very soon hear of it. He could not see any necessity for anyone to use colouring matters in wine, for the grape gave the wine all the colour that was necessary.

Replying to Dr. Tunnicliffe, Witness said he had never heard of the addition of mineral acids to wine.

## Legal.

## Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

## Appeals in the High Court.

In the Queen's Bench Division, on January 20th, before Mr. Justice Channell and Mr. Justice Bucknill.

## BANKS V. WOOLER.

This was a case stated by the Justices of Essex, which raised a question under the Food and Drugs Act, 1875. The appellant, Joseph George Banks, the Inspector of Nuisances of the East Ham Urban District Council, at the Stratford Petty Sessions preferred an information against the respondent, John Wooler, under Section 6 of the Act, charging that the respondent on June 4th had sold, to the prejudice of the purchaser, milk which was not of the nature, substance, and quality demanded. At the hearing it was proved that the appellant purchased from the respondent a pint and a half of milk for the purpose of submitting it to analysis. All the provisions of the Statute with regard to the taking of the sample, its division and analysis, were duly complied with, and the analyst gave a certificate to the effect that the milk contained fat, 3.55 parts; non-fatty solids, 7.46; water, 88.99—total 100.000. He therefore said he was of opinion that the milk contained 12 per cent. of added water, and said his opinion was based upon the above analytical results in conjunction with the fact that normal milk contains not less than 8.5 per cent. of non-fatty solids. The respondent pleaded not guilty, but did not tender himself or any witness or other evidence on his behalf, and did not require that the analyst should be called as a witness before the magistrates.

The magistrates were not required by either party to cause the parts retained to be sent for analysis to the central office of the Department of the Inland Revenue. The magistrates received the analyst's certificate as sufficient evidence of the facts stated in it, but it appeared to them that the milk was exceptionally good, the butter fat being above normal, and having regard to all the circumstances they thought that though the charge was proved the offence was of so trifling a nature that it was inexpedient to inflict any punishment. They therefore dismissed the information. The question for the opinion of the Court was whether they were justified in so doing. Mr. Macmorran, Q.C., appeared for the appellant, while the respondent was unrepresented. The Court allowed the appeal, and sent the case back to the magistrates with an intimation that they ought to convict.

## BANKS V. BROWN.

This was a case of a similar character, the only difference being that the percentage of added water was 11 per cent. This also was remitted to the same magistrates with a direction to convict.

ALLEGED MILK ADULTERATION.—At Woburn Petty Sessions, William Beasley, Woburn, was charged with selling milk not of the nature, substance, and quality demanded, to wit, 15 per cent. deficient in butter fat, on the 2nd December. The case was adjourned from the last Court in order that further evidence might be given on either side (see page 20, *Food and Sanitation*, January 13th). Mr. Mitchell now appeared to prosecute, and called Inspector Mason, who stated that he purchased a pint of milk of defendant's man for which he paid 2d. It was divided and sent for analysis, and he produced the analyst's certificate which showed the milk to be deficient of butter fat 15 per cent., Defendant said that he sold the milk in the same state as he received it from the farmer he bought it of. The Bench retired, and on its return the Chairman said that after careful consideration they had decided to dismiss the case. Mr. Mitchell asked the Bench to state a case, to which the Bench acceded. Inspector Mason entered into the necessary recognisances to prosecute the appeal.



**CAMPFORATED OIL PROSECUTION: AN APPEAL LODGED.**—At Luton Divisional Sessions, Ellen S. Cowdery, grocer, of Leagrave, was charged with selling to the prejudice of the purchaser, camphorated oil, which was deficient sixteen per cent. in camphor. The case was adjourned at the last court, upon a question of law as to whether the Inspector had properly divided the samples taken. Mr. Carter Mitchell, of Bedford, now appeared on behalf of the inspector to argue this point, and also to put forward evidences as to the standard of camphorated oil. Mr. Mitchell gave a lengthy exposition of the cardinal principles of the Act which affected this case. Contending that the suggestion that the bulk purchased must be mixed up and then divided was little short of an absurdity, and after giving instances where difficulties would arise if such were the case, he claimed that if the construction suggested was put upon it, the Food and Drugs Act would be rendered to a very great extent a dead letter. He further pointed out that the clauses framed for the protection of the vendor were carried out, and that if the inspector got hold of a sample not up to the quality of the bulk, the defendant had the opportunity of having his division of the article analysed, and if the results were then conflicting, the magistrates had power to order the analysis of the third part. Mr. Arthur Ekins, of St. Albans, was then put into the box to state what were the component parts of camphorated oil. He said that the 1898 Pharmacopœia gave it as one part of flowers of camphor, added to four parts of olive oil, *i.e.*, one part in five equivalent to 20 per cent. of camphor. Sergeant Mason, the inspector under the Food and Drugs Act for the County Council, then repeated his evidence given at the last Court as to the purchase by him of six twopenny bottles of camphorated oil from the defendant, with whom he left two bottles. The analyst's certificate in regard to the two bottles he submitted, said the oil contained 17.5 per cent. of camphor. After a short consideration, the Chairman said that they thought the Act had not been complied with, and they dismissed the case. Inspector Mason has entered into recognisances to prosecute an appeal in the High Court.

At Market Harborough Police Court on January 9th, John Thomas Griffin was fined 15s., including costs, for selling camphorated oil containing only 15 per cent. of camphor instead of 21 per cent., as required by the B.P., and adulterated with 20 per cent. of cotton-seed oil. The defence was that there was no guilty knowledge on the part of the defendant, as the oil in question was part of the stock taken over by him on coming into possession of the business.

**LIMEWATER PROSECUTION.**—At Stratford Petty Sessions, on January 6th, Henry W. Denny, of Katherine Road, East Ham, was fined 20s. 6d., including costs, for selling limewater which was not of the nature, substance, and quality demanded.

**THE JAM FRUIT SEIZURES AT BERMONDSEY.**—The last case arising out of the fruit seizures by Mr. Henry Thomas, Chief Sanitary Inspector to Bermondsey, was decided on January 18th. Messrs. Finsler and Wheeler, of Great Tower Street, City, was indicted for having in their possession at Rouel Road, Bermondsey, 249 tubs of unwholesome raspberries. Mr. Thomas stated that he saw the tubs at Lipton's jam factory on July 14th. The fruit was sour, fermented, and decomposed. He tasted some. Mr. Elliott: If the fruit was in the condition you say, and you tasted some from each tub, it is a wonder that you are here. (Laughter.) You must be a marvellous man. Witness: I didn't taste more than I could help. (Laughter.) Mr. Elliott: I don't blame you. When Mr. Slade examined the fruit was there one righteous tub? (Laughter.) Witness: I never apply righteousness to fruit. (Loud laughter.) Mr. Elliott: Did a single tub escape? (Laughter.) Witness: No. Mr. Biron said he intended to call Mr. Light, the manager of Lipton's jam factory, as a witness for the prosecution, but he had received a telegram stating that Mr. Light was suffering from influenza and unable to attend the Court. Mr. Elliott: With regard to that—if I may say so—I will sit down and say nothing. Mr. Biron: That is my case, then. Mr. Elliott submitted that there was no case to answer, inasmuch as the prosecution had not proved that the fruit actually belonged to the defendants. Evidence had been given that the fruit was in two vans, but not that it had been consigned by the defendants. Mr. Biron said this evidence would have been given by Mr. Light. Mr. Elliott: It is a criminal charge and this material fact has not been proved. I am entitled to ask for the discharge of the defendants. Mr. Biron asked permission to call two carmen. Mr. Elliott opposed this, because the case for the prosecution had been closed. The jury, upon the advice of Mr. Loveland, returned a verdict of "Not guilty." Defendants were then discharged.

**COFFEE PROSECUTION.**—At Wednesbury, on January 16th, Thomas Warwick, grocer, Ocker Hill, was summoned for selling adulterated coffee. An assistant to Mr. Van Tromp (county inspector) visited the shop, and asked for a  $\frac{1}{2}$  lb. of coffee. Defendant's daughter enquired if pure coffee or a mixture was required. On being told pure coffee, she charged 4d. for  $\frac{1}{2}$  lb., and upon analysis the article was found to contain 53 per cent. of chicory. The defence was that the defendant's daughter made a mistake in the canister. The Stipendiary said he considered it a bad case, and fined defendant 20s. and costs.

**BAD EGGS FOR CAKE MAKING.**—At Thames Police Court, on January 18th, Raphael Simon, of 11, Wentworth Court, Spitalfields, was summoned for having on his premises 150 eggs, which were bad, and intended for the food of man. Mr. Young,

who prosecuted, said the defendant was a pastrycook, and on the 10th inst. Mr. T. W. Wrack, sanitary inspector for Whitechapel, visited his bakehouse in Great Alie Street. Two men were at work, and one of them took eggs from a box and broke them, after which they were mixed with the flour. On the inspector examining the contents of the box he found 150 eggs in a very bad state. One of the men said the bad eggs were to be consigned to the dust-pail. There were a number of egg shells in the sink, and from their spotted condition he should say they were bad. The eggs were afterwards brought to the Court and condemned. The defendant, when seen, said the eggs were to have been sorted. By Mr. J. E. Waters, who defended: Some good eggs in the box were separated from the bad ones by a piece of paper. On behalf of the defendant, Mr. Waters said he should call evidence showing that his client gave £1 9s. for 600 eggs, and that was not a ridiculous price for eggs used in a bakehouse. None of the bad eggs were used for pastry, and those found were intended for the dust heap. The defendant would say it was impossible to put a bad egg in a cake without spoiling it. The defendant was called, and said his workmen tested all the eggs by chipping them and then inserting their little fingers. Mr. Dickinson fined the defendant £8 and £4 4s. costs.

**WEIGHING PAPER WITH SUGAR DECLARED ILLEGAL—IMPORTANT DECISION.**—At Wednesbury Police Court on Jan. 16th, the Stipendiary (Mr. N. C. A. Neville) delivered judgment in the case of James Hickin, grocer, of Pinfold Street, Darlaston, who was charged with having an unjust scale in his possession, under circumstances already reported, on the 19th of December. His Worship remarked that in this case it was proved that some paper was practically being weighed as part of a quantity of sugar. Probably the defendant was relying upon the decision which he gave some time ago at Wolverhampton, where a summons was taken out under the 26th instead of the 25th section of the Act for making a fraudulent use of the scales. There the facts were very similar to what they were in the present case. The man was convicted, but upon going to the Queen's Bench Division it was held there was not an intentional fraud in the use of the scales partly from two reasons, *viz.*, because the purchaser in that case actually saw the paper being put on the scale for weighing, and further because it was then stated, as the defendant in the present case had pleaded, that it was the custom of the trade to do this. But in the present case the proceedings were not taken under that section. They were instituted under another section of an Act of Parliament which made it unlawful for any person to use in connection with his trade a scale which was unjust. A case had recently been decided that where a grocer, in weighing packets of tea, put a piece of paper on the scale for the purpose of his own convenience, and thereby made the scale unjust, that person had at that time in his possession a scale which was unjust, although so far as the mechanical apparatus of the scale was concerned it was in perfect working order. The mere fact of putting a piece of paper on the scale had now been held by the Courts that it made that scale unjust, and in one case in particular, that of Lane v. Rendell, the Judges said that persons who did that were liable to be convicted for having an unjust scale in their possession, and it was not necessary that they should be guilty of a fraudulent use of it. Practically there were two distinctions, but there was no doubt that when it became known in the trade that the use of paper made a scale unjust, and if the trade continued to use it after these decisions had become known, then the Courts would hold that the continued use of scales which the Courts had held to be unjust would be a fraudulent use. In the future, if this practice continued, grocers would be liable to be convicted under the 26th as well as the 25th section. The proceedings in the present case were under the 26th section, and it was not for him to say that in using the paper defendant was guilty of fraud. All he had to satisfy himself about was that defendant had on the date named a scale on his premises which was as a matter of fact unjust. There would, therefore, have to be a conviction in the case. Defendant said the wholesale grocers did the same thing. The Stipendiary: Then the wholesale grocers will have to alter their proceedings, unless they would like to be convicted. I do not, however, think it necessary under the circumstances to inflict a heavy penalty. It is quite possible you may have been misled by the facts in the case of Harris and Allwood. You must now understand that when you are weighing tea or any other article you must not put a piece of paper under the scale, or you are doing a thing which is, according to law, illegal; you are making the scale, which is a perfect instrument in itself, unjust, and if you do it again you will be fined much more heavily. You will be fined this time 5s. and costs—in all 14s. 6d.

**GOLDEN SYRUP PROSECUTIONS.**—At Carmarthen, David Williams, Penybont, Trelech-ar-bettws, was summoned for selling adulterated golden syrup. Inspector Rees asked defendant's daughter for a tin of golden syrup, for which he paid 6d. The analyst certified that the sample "contained 20 per cent. of syrup and 80 per cent. of glucose." Witness stated that he did not think that defendant himself filled the tins, and was of opinion that defendant sold them exactly as he received them. The tin, which was produced in court, bore a label to the effect that the tin contained pure syrup specially prepared for the use of bakers, &c. The Bench (to defendant): Have you written to the people who supplied you with the syrup? Yes; but they say they have nothing whatever to do with it. I purchased the syrup from a wholesale house, and not direct from the firm whose name appears on the tin. The Inspector pointed out that defendant could



protect himself by obtaining a warranty from the people who supplied him with the syrup. A fine of 2s. 6d. and costs was imposed.

At Bacup, John William Broughton and Samuel Law, grocers, Weir Terrace, Bacup, were summoned for selling adulterated golden syrup. The sample sold by Mr. Broughton was certified to contain 45 per cent. of golden syrup and 55 per cent. of syrup from starch sugar. Mr. Law's sample contained 22 per cent. of cane sugar syrup and 78 per cent. of starch sugar syrup. For the defence it was urged that the purchaser got what he asked for, as it was commonly known that glucose was added to golden syrup to prevent crystallisation. "Golden syrup" had reference only to the colour, and not to the composition of the preparation. Both cases were dismissed on payment of costs.

**BUTTER AND MARGARINE PROSECUTIONS.**—At West London Police Court, on January 12th, George Williams, 187, North End Road, Fulham, S.W., was summoned for selling butter containing 90 per cent. of margarine, and also for not enclosing it in a proper wrapper. Defendant pleaded guilty, and Mr. Blanco White said there were previous convictions. Mr. Rose said the full penalty was £50. Defendant would have to pay £8 and costs.—John

Wilkins, grocer, 11, Seagrove Road, West Brompton, was also summoned, the adulteration being 75 per cent. He was fined £5 and costs.—William A. Seaman, 2, Munster Lane, Fulham, was summoned, his butter on analysis showing 75 per cent. of margarine. Richard Fairban, the actual seller, was summoned with respect to the same offence. The name over the shop was "Seaman & Co." and the defence of Mr. Seaman was that he had sold the business to Fairban. The transfer had been made before the purchase. The summons against Seaman was dismissed. Fairban pleaded guilty, and expressed his regret. A fine of £3 and costs was imposed.

At Hastings, on January 12th, A. and A. Gammage, grocers, were summoned for selling adulterated butter and for failing to label margarine which was exposed for sale. The first summons was withdrawn, and on the second a fine of 10s. and 9s. costs was imposed.

At Pontypridd, on January 17th, H. A. Bill, grocer, Pontshon-norton, was fined £1 and costs for exposing margarine for sale without a printed label. Defendant pleaded that all his labels were burnt in a recent fire, and the new lot did not arrive till the morning after the police visit.

## New Publications.

**EXAMINATION OF WATER FOR SANITARY AND TECHNICAL PURPOSES**, by Henry Leffmann, A.M., M.D. Publishers: P. Blakiston, Sons & Co., Philadelphia. Price: 1 dol. 25 c. Fourth edition.

Mr. Leffmann's work on the "Analysis of milk and milk products" is well known to many of our readers, as being admirable in quality and thoroughness. The same can be said for this new edition of "Examination of Water."

In view of the somewhat strained relations existing between some analysts and medical officers regarding the analysis of water and the high importance attached to bacteriological examinations, the views of Mr. Leffmann are interesting. "The efforts made some years ago by bacteriologists to discredit the value of chemical analysis have failed, and it is now generally admitted that mere microbe-counting is of little use in judging of the sanitary value of water samples. The best bacteriologists are also free to admit that up to the present time the detection of pathogenic bacteria in water is so difficult a task as to be rarely accomplished. There has been so much inaccurate and even dishonest work done in this field that it is incumbent on every one who reports the bacteriologic examination of water samples to give in detail the method followed, in order that the data may be properly valued. The day is probably not far distant when it will be recognised that both chemical and bacteriologic examinations of ordinary surface waters are of little importance, since such waters cannot be allowed for drinking purposes unless efficiently filtered." Mr. Leffmann adds that "apart from various general considerations, the investigations as to the relations of insects and other minute organisms as conveyors of disease germs must lead us to regard with suspicion any water that may receive material from the surface of the ground." The one or two fussy analysts who have been lashing themselves into a state of fury over the presumption of medical officers who object to their claims upon bacteriologic examinations of water, might take these very true observations to heart—the question is hardly worth fighting about in London because there have been more than enough examinations of both sorts. What is wanted is *pure water*, but with Viscount Landaff and his fellow commissioners' final report before us we appear as far off truth in reports or safety for the public who drink London's semi-filtered sewage and drainage as ever. London's water is never supplied to the consumer without a plentiful number of bacilli in it, many larger than those of cholera or typhoid. Well, some day London will suffer, and if Viscount Landaff and his fellow commissioners receive the reward they have earned on that day we should like to have a piece of the rope. Mr. Leffmann's work is excellently arranged, the analytical processes being lucidly set forth. The illustrations are engraved in that clear style so appreciated in American productions, and the letterpress and printing are far superior to the general turn out of English scientific works.

## Books Received.

"MUSCLE, BRAIN, AND DIET," by Eustace H. Miles, M.A. Publishers, Swan Sonnenschein & Co., Ltd., London, 3/6.

Mr. Miles sets out by informing us what a wonderful person he is. He won the Tennis Gold Prize 1897, 1889, and 1899; the Amateur Championship 1899; the Amateur Racket Championship 1899. He teaches people "How to Prepare Essays," "How to Learn Philology," and is Classical Honours coach at Cambridge University. On page after page we find references to his "brain-work," "his improvement in brain-work," his "being in constant mental training all the year round," and he informs us also that he intends to publish two more books on "Health by Natural Means," and on the "Training of the Body."

Despite a larger use of the "I" than even the late pendragon of *The Referee* was guilty of, and a style without coherence, and slipshod, in which our author repeats himself to utter weariness, we worked through his book, which, as a plea for the simpler foods, ought to be of interest—the subject being a good one—but we failed to find anything to justify this deadly dull work. All that Mr. Miles has to say in 335 pages could be put into 10 pages by anyone who knew how to write. His knowledge of foods and their values is about on a par with his powers as a poet. The following is a specimen of his poetry. Humanity is to be helped by avoiding "As Defects"—

"Alcohol, Smoke (so I've heard),  
Drugs, Meat Extracts, Flesh, and Bird,  
Fish, Eggs, Coffee, Cocoa, Tea,  
Pricking Sauce, and Savoury."

Mr. Miles recommends his readers to commit his next poem to memory:—

"The proteids help to form the cells and blood, and also heat,  
Or energy for various work for this we likewise eat,  
*Fats, Carbo-hydrates*, often stored like fuel to be burnt,  
The effects of many mineral *salts* have hardly yet been learnt;  
Phosphates for brain, and lime for bone, and potash to outreach the scurvy. As to table salt its not yet safe to teach,  
We're largely *water* which in us unseen doth mostly lurk,  
The *fibres* are not food but bulk, they give our organs work."

We can assure our readers this is not an excerpt from some child's doggerel—it is Mr. Miles as a rival to Alfred Austin.

He has equally original ideas on food values. According to an elaborate table he has prepared, the banana contains proteid or albumen 1.9 per cent. Professor Church in *Food* gives the albumen as 4.8, but probably Mr. Miles is as able and original in his science as he is in his poetry. Before he issues his other books we recommend him to take lessons in composition,



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## Food and Sanitation.

SATURDAY, FEBRUARY 3, 1900.

### Securing Justice for Retail Traders.

Too MANY retailers hold the belief that the Food and Drugs Act Inspector and the Public Analyst are their enemies ever eager to pounce upon and drag them into court. To such we recommend a careful perusal of this excerpt from the report of the Chief Inspector for the Durham County Council, Mr. B. Scott-Elder. The Chief Inspector illustrates how he has gone out of his way to show the retailers their obvious duty to themselves:—

"A main feature of the quarter's work has been the proceedings against the wholesale traders, while the retailers have been allowed to go free, without even the

mention of their names in court. This course entails considerable and responsible work upon this department, even from a legal point of view, but I regret to report that I am considerably hampered by the retailers themselves, who, in many cases, are most unwilling to furnish me with the few essential particulars I require. In one case I actually had to issue a witness summons to compel a trader to attend the hearing. In another case the retailer alleged that the invoice had been destroyed, and it was only by coaxing and persuading that I prevailed upon him to obtain a copy from the wholesale dealer, and upon the strength of it I risked a prosecution which resulted in a conviction with a substantial penalty. *I hope that in future, as every effort is made by this department to place the penalty of misdoing upon the right shoulders, retailers will consider it their duty to give me all the necessary information.*

Camphorated oil, which was compounded with rape oil instead of olive oil, was purchased from a shop-keeper in bottles bearing labels marked distinctly "Camphorated Oil." Upon inquiry I found that it had been supplied by a wholesale firm who had already paid a £20 penalty on behalf of a retail customer, and that this supply had actually been sent out after that conviction had been recorded. *I thereupon took proceedings against the wholesale firm for wilfully giving to the trader a label which falsely described the article sold, and the Bench inflicted the full penalty of £20 and costs.*

Prosecutions with respect to adulterated golden syrup have been frequent during the quarter, but only in two cases against the retailers. Fines were inflicted in both instances. Against large wholesale firms there have been, however, three important prosecutions to which I have to call your attention. In these cases the golden syrup was supplied in tins, around each of which was a large label vouching the contents to be pure golden syrup, and in one instance the declaration of purity was made no less than four times. But on the top of each tin was a very small label stating in one case that "other ingredients" were added, and in the other two that "glucose syrup" was added. The labels in each case thus directly contradicted each other, the one proving the other to be false. I passed over the retailer and instituted proceedings against the wholesale firms for wilfully giving the retailers labels which falsely described the articles sold, and after lengthy hearings the magistrates upon two different county benches convicted in two penalties of £10 each, and one penalty of £5, with costs in each case. Notice of appeal was given in one instance but not proceeded with. I have reason to believe that the results of these prosecutions have caused considerable surprise amongst the wholesale traders generally, as no similar prosecutions had ever been instituted in this county before. The object of the wholesale traders in attaching a second label was no doubt to protect the retailer, but while to a certain extent they accomplished this, they at the same time proved their own guilt with regard to the first label. If one may judge from the number of recent communications, interviews, etc., on the subject, the false labelling of golden syrup will soon be a thing of the past.



PURE, WHOLESOME, DELICIOUS.

# BIRD'S CUSTARD POWDER

The unfailing resource of every Lady of the House  
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**NO EGGS ! NO TROUBLE ! NO RISK !**

During the quarter several instances have been discovered where "carbonate of magnesia" has been sold in packets labelled "pure magnesia." These are quite different articles and one costs more than twice as much as the other, so that the substitution of one for the other is a distinct fraud, but upon inquiry, I found that the retailers were wholly ignorant of the difference. As the time limit for proceedings had expired, I was prevented from summoning the wholesale dealers for giving false labels, although I had abundant proof of their knowledge of the offence. Moreover, strong representations were made to me by firms other than those directly interested, to the effect that it had been quite a common practice to sell "carbonate of magnesia" as "magnesia," although they admitted that it is wrong to do so. Five firms have voluntarily offered to discontinue the practice at once and label their packets properly, and under these circumstances I do not recommend any proceedings against the retailers in the three cases which I have reserved for your consideration, but I hope that traders will understand that any similar offence cannot be overlooked in future.

The Food and Drugs Act, 1899, came into operation on 1st instant. I have issued posters throughout the county containing the most important provisions which affect retailers, and certain wholesale firms, have at their own expense, reprinted the poster in pamphlet form, and circulated it amongst their customers.

With regard to Section 6 of the new Act, which enacts that no other printed matter except the word "margarine" shall appear on the wrapper in which that substance is sold, I have to point out that while there are certain wrappers which are decidedly misleading, and which will be suppressed at once, there are others which convey no idea of fraud, having in one instance the word "finest" added, in another the name and address of the trader, etc., etc. Where large supplies of this latter class of wrapper are in stock, I propose, subject to your consent, to give upon written application a short extension of time, so that the present stock may be utilised in the ordinary course of business and thus save the trader from unnecessary expense. I think it should however be distinctly understood by traders, that this provision of the Act will be rigidly enforced, and that even the pictures of the cows peacefully drinking at the brook, and the pretty milk-maid busy at her vocation, must be discontinued."

Mr. Scott-Elder's care and consideration for fair play to retail traders show that whilst he has the protection of the consumer at heart he knows the class of cases in which the retailer is usually an innocent person. He sets a good example and one which we think Durham traders have cause to appreciate. Retailers by assisting the Inspectors could do a great deal to protect themselves and weed out some unscrupulous wholesale firms who are pests to the trade.

## What will our Government Tax for the War Expenditure.

ALCOHOL, tobacco, and the income tax are amongst the suggested new taxation; but, strange to say, we hear nothing of putting an adequate tax on the scores of humbings sold as patent medicines, and we trust in the interest of the public who are deluded into buying these swindling concoctions of aloes and soap, guaranteed to cure all ailments, that a sharp tax will be put upon the rubbish, if our government cannot be courageous enough to compel the vendors of the frauds to declare the contents of the preparations, and thus suppress their sale altogether. The number of swindlers, mainly American, who exploit England and gain enormous wealth by their impostures is legion. Here at least is one branch of trade which everyone save the makers and the swindlers would like to see, pay! pay! pay!

## Our Record.

WHEN we began *Food and Sanitation* in 1892, the administration of the Food and Drugs Acts was feeble and inefficient. The purity of food was a subject which possessed no interest for the public and very little for the bulk of our local authorities. Only 29,000 samples were taken for analysis. We soon made it a live question, and demonstrated its many-sided importance to that degree that the House of Commons Committee was appointed, the new adulteration act passed, and the number of samples taken for analysis increased from 29,000 to 50,000 per year—a really useful public work, which we doubt if any other journal has equalled in a similar period since the *Lancet* Commission. Having done so much for all concerned with the working of the Food and Drugs Acts and purity of foods, we trust that now the new act is in operation, our readers will help us to increase the real usefulness of *Food and Sanitation* by sending us reports of all cases in their districts, of analyses of interest, new sophistications in food, drugs and drinks—in short, of any matters likely to be helpful and instructive to traders and officials,



## Is the British Pharmacopoeia a Standard under the Food and Drugs Act.

MR. BAGGALLAY'S decision reported on page 12 of *Food and Sanitation*, January 6, 1900, has, as we expected would be the case, caused surprise amongst many of our readers. It must not be forgotten that it is but a police court one, yet it raises a point of the gravest importance, because the inspector did not ask for the article as "compound rhubarb powder, B.P." Here are the facts: "A chemist was summoned at West Ham Police Court by Dr. C. Sanders, Medical Officer of Health for West Ham, for selling compound of rhubarb powder not of the nature, substance and quality demanded, such article not being 'genuine compound rhubarb powder, according to the formula of the British Pharmacopoeia.' It contained only 30 per cent of magnesia, whereas 66.6 per cent. is prescribed by the British Pharmacopoeia." Defendant said he had only recently taken over the business, and the article in question was already made up and marked. After his attention had been drawn to the matter he examined the article and found that it had been made of carbon magnesia instead of oxide magnesia. Most chemists used the carbon instead of the oxide, as it mixed more freely with water. Mr. Alfred Smith, one of the sanitary officials, deposed to purchasing half-an-ounce of compound rhubarb powder at defendant's shop, on November 14th. Defendant served him. By defendant: He did not ask for "compound rhubarb powder, B.P.," nor did he present a doctor's prescription. He asked for "compound rhubarb powder." Thomas W. Crocker, another assistant, spoke to receiving the article, and added in reply to Dr. Sanders, that he intended to purchase the British Pharmacopoeia article. He understood that to be the only standard. Mr. Baggallay: *When did it become so? Witness: It is only common knowledge.* By defendant: Mr. Smith was not told to purchase the B.P. article. He had his instructions in writing. Mr. Baggallay: It does not matter what were the instructions; he did not ask for "compound rhubarb powder, B.P." Defendant: Unless the B.P. is specially asked for, the chemist uses his discretion. It makes not the slightest difference, the chief ingredients, ginger and rhubarb, are in the proper proportion. The Public Analyst's certificate having been put in, Mr. Baggallay said he was of opinion that the summons could not be supported, even if it was in itself good. *The information stated that the article was not genuine compound rhubarb according to the British Pharmacopoeia, as it contained only 30 per cent. of magnesia, whereas 66 per cent. was prescribed by the B.P. But it was not necessary that a drug to be genuine should be made according to the B.P. There was no Act of Parliament which made the B.P. the standard of any compound of drugs. The statement that the drug was not according to the B.P. was bad on the face of it; but if that was not bad the certificate of the analyst did not prove*

the case. He (the analyst) did not say the compound rhubarb powder was not genuine, but that it was not in accordance with the British Pharmacopoeia. The case would be dismissed. Mr. Drayton asked for costs, and was granted 10s."

Mr. Baggallay is, it would appear, right in his statement that there is no act of parliament which makes the B.P. the standard for any compound of drugs, but there is a high court decision in *White v Bywater*, 19 Q.B., D. 582; 36 W.R., 280; 51 J.P., 821, which recognises the British Pharmacopoeia as the standard, and is nearly on all-fours with the case dismissed by Mr. Baggallay. A chemist sold some tincture of opium deficient in strength as compared with that prepared according to the standard of the British Pharmacopoeia. It was held by Lord Coleridge, C.J., and A. L. Smith, justice, that the chemist was *rightly convicted, although the purchaser had not asked for tincture of opium prepared according to the standard of the British Pharmacopoeia.* Mr. Justice A. L. Smith said, "Tincture of Opium must mean the article known in commerce as tincture of opium. The thing supplied was not tincture of opium, but an inferior article." (*Vide Bell and Scrivener's Sale of Food and Drugs Act*, 2nd edition, pp. 19 and 20; *Hedderwick Sale of Food and Drugs Act*, page 10; *Cribb and Robinson, Food and Drugs*, page 48; *Macaulay, Law on Adulteration of Food*, page 5). Amongst others Mr. Glynn Jones states:—"In reference to drugs, it is sometimes argued that the B.P. is the standard under the Food and Drugs Act. There is not a sentence in any of the Food and Drugs Acts, which warrants the assertion, and no magistrate could rightly convict a defendant on the ground that the analyst's certificate says the article in question is not of B.P. strength. He must have oral evidence to prove to him that the B.P. is the commercial standard for that particular article."

"At Plymouth, Dr. Attfield, surely an authority as to what the Pharmacopoeia is or is not, stated that it was not the legal standard, that it was not prepared with that object in view."

Mr. H. Whippell Gadd, of Exeter, says:—"That the authority of the Pharmacopoeia as a standard should be disputed is not surprising, in view of the conflicting views of different authorities." The legal position of the question appears, however, not to disclose any serious conflict by authorities. We believe that had the case been taken to the court of Queen's Bench Mr. Baggallay's decision would have been reversed. In any case, it is not worth taking as a serious precedent because it is clearly overridden by the case of *White v Bywater*, in the Queen's Bench appeal.

## Notes for Dairymen.

### A Milk Fever Remedy.

Writing in *Farm and Home*, Bosco says:—"Some few years ago I lost some valuable heavy-milking cows from milk fever, and, happening to mention the fact to an old dairy farmer (now, by the way retiring after 70 years' farming), he told me that if I gave up the practice of drying my cows off entirely, I should find that I had no more losses from that cause. He said he had always

made it a rule to draw a little milk—say a quart or so each day—right up to calving time, and he had never lost a cow since adopting that practice. I did as he advised me, and have lost no more cows since then. Drugs are very well in their way, but leave them alone. It is rubbish to say that milking the cow right up to calving is prejudicial to the calf; I have never found it so yet, and I have had a little experience."



### Diphtheria and the Milk Supply.

DR. ETHEL M. N. WILLIAMS, says in the *Lancet*—“We all from time to time meet with cases of diphtheria where there seems complete proof that the infection has been conveyed by means of milk. In many cases where no association of the milk with a case of diphtheria can be proved, this is attributed to infection from a disease in the cow caused by the same organism as human diphtheria. It seems to me possible that a habit I have noticed among milkers in country places may in many cases offer a simpler solution of the problem. Recent research has brought to light the fact that a micro-organism not to be distinguished from the Klebs-Löffler bacillus is to be found inhabiting the throats of many persons apparently in their usual health and pursuing their usual avocations. Old-fashioned milkers, specially old yardmen in country places, often moisten their hands with saliva before seizing the teats, instead of moistening them with the first drawn

drops of milk. It seems to me more than probable that by this means the bacillus of diphtheria may be conveyed from the throat of the milker to the milk. My attention was first drawn to this habit about two years ago on a farm in the east of England, where an old yardman when giving me a lesson in milking directed me to begin operations thus. I have since found that this is quite a common custom, though it may be omitted when a visitor is present at the milking. I have never seen this point touched on, though it seems to me worthy of some attention. We are at this present time apt always to look to disease in the cow as the source of infection, though the connection between disease in the cow and these cases of milk borne diphtheria is often far from clear.”

We have seen a great amount of milking in various parts of the United Kingdom, but we must say it is news to us if this practice be common. It might exist in one district, but we feel sure it is not general.

## Dietetic and Hygienic Notes.

### The Clinical Significance of Uric Acid.

In a paper, entitled “Facts and Fallacies in Uralysis,” in the *Medical Record*, Schaefer discusses, among other topics the clinical significance of uric acid, a subject on which much new light has been thrown within recent years by the labours of Horbaczewski, Kossel, Von Noorden, and other physiological chemists and clinicians.

The uric-acid theory (says Schaefer) is now the great pathological fetis of the medical profession. It is contended by many writers, foremost among whom is Haig, the great apostle of the uric-acid theory, that uric acid is the responsible factor of the *fons et origo mali*, of a large number of ills and aches. This is a great question, and it is the firm conviction of the writer that the day is not far distant when we shall be obliged to give up the uric-acid hypothesis altogether and be compelled to look for causes elsewhere. The amount of uric acid excreted in twenty four hours ranges from 0.4 to 1 gm. (gr. vi. to xv.). The quantity of uric acid in the urine should never be presumed to be excessive from the mere fact of deposit of uric acid crystals in the urine upon cooling, as in fact such may, and very often does, occur when the uric acid is both relatively and absolutely deficient. The conditions of the urine which tend to precipitation of uric acid are as follows: (1) High grade of acidity of the urine; (2) poverty in mineral salts; (3) low percentage of pigmentation; (4) long standing. Any urine upon standing will deposit uric-acid crystals in consequence of the changes culminating in ammoniacal decomposition.

Now a word or more in regard to the so-called brick-dust sediment of the urine. I will say that it is usually not of much diagnostic value, although physicians frequently attach great importance to it. A uric-acid sediment is observed in cases in which an increased excretion of uric acid occurs, but it should be remembered that, as a rule, it is not permissible to infer an increased production or elimination from the presence of an abundant deposit of urates alone. Brick-dust sediments are frequently observed in the urine during winter months; but nothing would be more erroneous than to infer an increased elimination from such an observation, as the phenomenon in nine out of ten cases is explained by the fact that uric acid is far less soluble in cold than in warm water. According to Bunge, it takes about fourteen litres of water at the ordinary temperature of the room to dissolve 1 gm. of uric acid; at the boiling temperature it required two litres, and at the temperature

of the body seven to eight litres. The acid urate of sodium dissolves in eleven hundred parts of cold and one hundred and twenty-four parts of boiling water. Much more difficultly soluble are the urates of ammonium and those of the alkaline earths. During summer months a deposit of urates is less frequently observed, although an increased amount may nevertheless be present, being held in solution owing to a higher temperature. The more concentrated the urine and the more uric acid it actually contains, the more readily will a deposit of the kind occur. Uric-acid sediments are most often encountered in very acid urines (Purdy). Horbaczewski and others have shown in recent years that enormous amounts of uric acid are excreted under a diet rich in nucleins, thymus having been employed in the cases observed.

Now permit me to express a few words in regard to the so-called uric-acid diathesis, particularly gout and its relationship to uric acid. It has long been a matter of doubt in my mind as to whether uric acid has actually any causal connection with the varied manifestations pictured under the name of uric-acid diathesis. Recent investigations seem to show in a very conclusive manner, notwithstanding numerous statements to the contrary, that the excretion of uric acid in gouty patients moves in the same wide limits as in the healthy. In this disease the urates are neither increased nor diminished in any stage. An increase of uric acid in the blood of gouty patients has not been established with any great degree of certainty. Von Noorden has arrived at the conclusion that the gouty condition is independent of the presence of uric acid in the blood. This experimenter holds the opinion that the gouty process can be traced back to a specific local inflammation of the respective tissues. Changes occur which show partly the character of an inflammation, partly that of a necrosis. The acuteness of the process and other conditions may produce a slight or an abundant deposit, or even a deposit entirely free from uric acid. The uric acid which is once formed remains *in loco* at the necrotic areas, because it is insoluble in the fluids, notwithstanding their alkalinescence. In leukemia the presence of uric acid is greatly increased in the blood and in the tissues, and yet no gouty deposits nor symptoms characteristics of gout occur. This late view of the nature of gout seriously questions the rationale of the treatment at present advocated against the malady in question. Besides, clinical experience teaches clearly enough the absolute immunity of gouty nodules against alkaline medication.



### The Public Analysts' Annual Dinner.

THE 25th anniversary dinner of the Society of Public Analysts was held on January the 24th at the Criterion. Mr. W. W. Fisher, president of the society, presided, and among those present were Mr. R. T. Prowse, secretary of Her Majesty's Customs, Dr. T. E. Thorpe, president of the Chemical Society, Dr. Thomas Stevenson, president of the Institute of Chemistry, Mr. F. M. Mercer, master of the Wheelwright's Company, Mr. W. Martindale, president of the Pharmaceutical Society, Dr. Stocker, master of the Society of Apothecaries, Professor F. Clowes, Dr. H. E. Armstrong, Dr. F. D. Chattaway, Dr. B. Dyer, and Mr. W. J. Fisher. After the toasts of "The Queen" and "The Navy, Army, and Reserve Forces," responded to by Major C. E. Cassal, Mr. Otto Hehner proposed "The Institute of Chemistry." This toast was acknowledged by Dr. Thomas Stevenson (president of the Institute of Chemistry). He said that the institute had been in existence for a quarter of a century, and it had fulfilled a very useful function, not only with regard to the public generally and the Government departments, but with regard to the Society of Public Analysts. The institute had raised itself up to be a great examining body for the profession of chemistry, and it had by its examinations set up and maintained a very high standard of professional knowledge, not only with regard to theoretical chemistry in all its branches, but with regard to the practice of chemistry. Professor H. E. Armstrong proposed "Kindred Societies." Professor T. E. Thorpe, in reply, referred to the aid given to chemistry by the Royal Society, and pointed out that the Chemical Society, during its 60 years of activity, had done an enormous amount of good in raising the general status of chemical manufacturers in this country. Professor Clowes proposed "The Society of Public Analysts," laying stress on the importance of the work of the society in its relation to the purity of food supplied to the public. The President, in the course of his reply, said that the society was now in a healthy and flourishing condition. During the past ten years it had largely increased its membership and had doubled the responsibility of the work which its members had to undertake. During 1898, 50,000 samples of food and drugs had been submitted to the public analysts for their verdict. The number which they reported as adulterated was 4,000, less than 10 per cent. This was a testimony to the useful work which the society had done. Ten years ago the percentage was 13 per cent., and before that time it was frequently 15 and 16 per cent. Dr. B. Dyer proposed "The Guests," which was acknowledged by Mr. R. T. Prowse.

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### Shorter Hours and Recreation for Shop Assistants.

A VERY sordid squabble is being carried on in grocery trade papers between rival leaders of shop assistants' associations in which charges imputing shady conduct, cooked balance sheets, etc., are being freely made. We cannot conceive that the shop assistant can have a real friend or a useful adviser in leaders who appear more concerned with self-advertisement and a "boss" position than with assistants' grievances and interests, and seeing the nature of the aspersions these leaders make upon each other we very much doubt if the sensible assistant will not be inclined to say like Mercutio, "a plague on both your houses." One of the most ridiculous things the rival associations have done is to warn grocers' assistants and others against the Early Closing Association on the ground that it is not worked on trade union lines. Possibly it is because it is a common-sense organisation that the Voluntary Early Closing Association has done so much to secure shorter hours and recreation for shop assistants. Mr. Yoxall, M.P., has recently asked the assistants to rise in their thousands and form a Union, with a view to putting an end to the underpaid and overworked career which is too generally their lot in life. Mr. Yoxall maintained that shop assistants are about the worst paid body of workers in

England. A resolution protesting against the "living-in" system with its accompanying social and political isolation was passed. It was resolved to support the Shops Bill brought in last Session by Sir Charles Dilke. When the assistants have the support of brilliant public men like Sir Charles Dilke, Sir John Lubbock, and others, it seems a pity their self-constituted leaders do not sink their miserable vanities. As regards the attacks on the Voluntary Early Closing Association, we have an instance at Ipswich where 200 shops now close at 2 p.m. on Wednesdays. Why Associations who do this kind of good work should be denounced is beyond our comprehension.

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### Shall We be Starved Out?

MR. THOMAS G. READ, writes "We are likely to be very badly off for meat during a war with a Naval Power, as food of all kinds is certain to be declared contraband. The only imports that are likely to reach this country in large quantities during a war with a Naval Power are raw materials for our manufactures, as such could not be declared contraband, and could come in under a neutral flag.

Last year we imported 66,636,978 cwt. of wheat, valued at £22,282,701; and 22,945,708 cwt. of flour, valued at £10,700,990. By importing the flour instead of the equivalent in wheat we left 9,738,260 cwt. of wheat offals abroad, worth, at 4s. per cwt., £1,947,652.

During the past 20 years we have lost over £35,000,000 by importing flour instead of the equivalent in wheat, having paid over £10,000,000 more for the flour than we could have obtained the equivalent in wheat for, and having left over 125,000,000 cwt. of wheat offals abroad, worth, at 4s. per cwt., £25,000,000. At present without the slightest doubt we are considerably handicapped in stock-raising owing to the senseless system now allowed by which much of the flour used in making our bread is ground abroad, and the offals used to feed stock abroad, which often is eventually sent to this country as meat. Owing to so much wheat offals being left abroad, the price for offals is very high in this country and makes a considerable difference to our meat producers, our dairy farmers, and even our labourers who keep pigs. There is a good demand for wheat offals in the States, the Milwaukee and the Minneapolis offals being largely used round Chicago for stock-feeding. The French port millers are allowed to import wheat duty free, on the understanding that the flour produced is exported to other countries, the French Government knowing that the more wheat offals there are in the country the greater the number of head of stock kept, which gives an increase in the home-made manure and thus larger crops.

Were we to prohibit the importation of flour and still admitted wheat, we should increase the employment of our workers, cause our stock-rearers to have a more abundant and cheaper supply of wheat offals, keep much money annually in this country that is now going abroad for imported food for our live stock, reduce the possibilities of adulteration of flour, and furnish our people with more freshly-ground flour, and thus better bread without any increase in the price.

Surely the time has arrived for the nation to demand that the question of our food supplies during war shall be shelved no longer, and that the Government without any more delay shall appoint a Royal Commission to inquire and report concerning the whole question of our food supplies. But as a precaution, and as a temporary measure, in case of European complications in the possible near future, let the Government at once prohibit the importation of flour, and inform our farmers that they shall receive a certain sum per acre for each acre of oats that they harvest next autumn, so that more oats shall be sown this coming spring, and thus more food produced for our people."



### The End of "Phossy Jaw."

THE history of "Phossy Jaw" agitation seems likely to result not only in benefit to the health of the workers, but to the manufacturers, who resisted the exposures of its horrors and shrieked about ruin and driving English trade out of the country. This, it may be remarked, has been the result of every agitation for sanitary reform. Who can forget the jeremiads of the manufacturers who fought against being compelled to abate chemical refuse pollutions. That agitation resulted in the discovery that many of the residuals were of great momentary value, Aniline dyes, disinfectants, and a new series of potent pharmaceutical preparations all being evolved from the once noxious waste. The sturdy fight *The Star* made a few years ago against the horrors of "phossy jaw" has borne good fruit. Mr. Wilberforce Bryant, Chairman of Bryant and May, Ltd., now announces:—

"It had been the desire of the management from that time until the present to find a substitute for the ordinary white phosphorus, which had many disadvantages, and he was glad to tell them that within the last two or three months they had succeeded in acquiring valuable patents by which they would abolish altogether the use of ordinary white phosphorus in their factories. It was a peculiar satisfaction to him to know that and live to see it."

We congratulate our contemporary on this result of its unselfish crusade on behalf of the poor and powerless.

It is to be hoped the fight against Rockefeller's 73° refuse American Lamp Oil may result in victory before this year is over. Sir Matthew White Ridley and Mr. Jesse Collings stand in the way of the public safety. In securing the rejection of Mr. Harold Reckitt's bill, these ministers deliberately deceived the members of the House of Commons by promising a measure of their own, which promise they did not fulfil, and as is now evident, never intended to fulfil. We trust to see our exposures of this infamy which *The Star* has also so strongly attacked, result soon in raising the flash point to 100°, and saving hundreds of human beings from the horrors of roasting alive to which Sir M. W. Ridley and Mr. Jesse Collings so callously condemned them. If some inventors would show Rockefeller how to make more money out of his murderous 73° refuse petroleum, we should see Sir M. W. Ridley's objections and Mr. Jesse Colling's scruples vanish into thin air.

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### Lancashire County Council and the New Act.

THE Health Committee of the Lancashire County Council has made the following recommendation. Under the new Food and Drugs Act additional responsibilities and duties are imposed on the county council, and with a view to the more effectual enforcement of the provisions of the Sale of Food and Drugs Acts, the Committee, after due consultation with the Finance Committee, are of opinion that the clerk of the County Council should act as prosecuting solicitor, and that the inspectors before instituting any proceedings under these Acts should submit the particulars to him, and he will then advise whether proceedings should be commenced, and arrange for someone from his office to attend and conduct the prosecution, if necessary. The Committee are also arranging for a conference with the Board of Agriculture as to the methods of inspectional work under the Act. The County Analyst reports that during the past quarter he examined 411 samples, of which forty-six were offences. Twenty-four of the samples were sent by the inspector of the Royal Lancashire Agricultural Society.

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### Canterbury Instructs Traders.

THE Sanitary Inspector for Canterbury has been instructed by the Council to call upon grocers and explain the requirements of the new Food and Drugs Act so as to avoid "catch prosecutions."

### Adulteration of Lemon Essences.

THE past two years have seen a number of new preparations in powder form for making lemonade, ginger beer, etc., offered for sale to the public. Hitherto little, if any, examination has been made of the ingredients entering into composition of the powders. Some recent results obtained by Mr. A. S. Mitchell, and published in *Jour. Am. Chem. Soc.*, appear to suggest the advisability of having examinations made of analogous substances on the English markets and of lemon essences, etc.

"Mr. Mitchell reports the presence of some curious sophistications. The "spiritus limonis" of the U.S.P. should be prepared from 1 part of oil of lemon, 1 part of fresh-grated lemon peel, and 20 parts of 95 per cent. deodorised alcohol, the oil being dissolved in 18 parts of the alcohol, the lemon peel macerated in the mixture for 24 hours, and, after filtration, sufficient alcohol added to make up to 20 fluid parts. But a preliminary examination of preparations supplied by grocers showed them to contain alcohol in amounts varying from 14 to 94 per cent., and oil of lemon from none to 8 per cent. The extracts low in alcohol had in many cases a fine aroma, derived from agitation with new oil of lemon in some cases, but more frequently produced by citral and so-called "soluble oil of lemon," or by lemon-grass or citronella aldehyde, and frequently with the addition of tincture of mace, nutmeg, or capsicum. The cheaper grades contained so little oil in solution that the addition of water frequently failed to produce turbidity. Among the colouring matters found to have been used in preparing the extracts were naphthol-yellow, tropæolin, and dinitrocresol.

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### Salt and Digestion.

In *Life and Health* it is stated that "Dr. G. Hurson, a French physician, has been investigating the effects of salt upon digestion. His experiments show that salt, in any but the most minute quantities, very materially impedes digestion. Even so small a quantity as 0.5 gramme, or 7½ grains, is sufficient to retard digestion; and the larger the quantity the greater will be the gastric derangement."

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### The Exeter Analyst makes a generous offer to Traders.

At a meeting of the Exeter City Council on Wednesday last, January 24th, Mr. C. G. Moor, F.I.C., public analyst of the City of Exeter, presented his annual report on the work done by him during the year under the Food and Drugs Act, in which he stated that 100 samples of food and drugs have been examined in all, of which ninety-two were foods and eight drugs, the latter being asafetida one, tinct. asafetida two, cloves two, and saffron three. Three samples were adulterated among the drugs—namely, the gum asafetida, which contained a large quantity of mineral matter, and the two tinctures which, being made from adulterated gum asafetida, were deficient in extractive matter. He was of opinion that the system of giving public notice of the standards to which foods and drugs should conform might be extended with advantage, and if it was the desire of the Council, he was prepared to draw up a list of such articles of common use in the case of which standards for composition were known. The publication of a circular on this matter would assist traders who desired to be certain that the goods they offered for sale were strictly genuine within the meaning of the Acts. Such a circular might also include extracts from the new Sale of Food and Drugs Act. The British Pharmacopœia, 1898, has greatly extended the tests for the purity of drugs, and he was strongly of opinion that while no diminution should be made in the number of foods examined, it was important that drugs should receive attention. There were some 400 different foods and drugs which were all more or less liable to adulterations or deficiencies.



# Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 46.)

The enquiry was resumed on January 17th.

## MR. T. CARRINGTON SMITH'S EVIDENCE.

Mr. T. Carrington Smith gave evidence on behalf of the Central and Associated Chambers of Agriculture, that the chamber had passed a resolution against the employment of preservatives or colouring matter in articles of dairy produce, whether British or imported.

As regards cheese the Central Chamber of Agriculture had sent round circulars on the subject and had received replies from more than 100 people, giving the preservatives and colouring matters used. Sixty-four of the 100 used colouring matters, and 42 replied that they used no colouring matter at all. Of those who used colouring matter annatto was used in 42 cases, and in the remainder a variety of patent colourings were used.

## PROFESSOR LONG'S EVIDENCE.

Professor J. Long, examined by the chairman, said he also appeared to represent the Central Chambers of Agriculture. He was clearly of opinion that the milk trade could be carried on without the use of preservatives. He had evidence to show that milk might be and was drugged three times over—by the farmer, by the wholesale firm, and by the retailer.

Witness said that evidence had been given before the Committee by a witness who said Danish butter could not compare with Normandy butter, and he took notice of that because a good deal of Normandy butter was preserved. The fact was that during the past three weeks in the Paris market the price of Danish butter had risen from 3/40 fr. to 4 fr. per kilo., while Normandy butter was 3 fr. to 3/30 fr., and the best French was from 3 fr. to 3/72 fr. That was the only way in which they could compare butter of that kind.

In England, in September, Danish butter was at the top of the market. In October, Danish butter fetched 124s. to 125s.; French butter was from 110s. 6d. to 120s. In November Danish butter fetched 111s. 6d. to 115s. 6d. and French from 110s. to 116s.

Is there anything in the quality of Irish butter arising from the pasture or the mode of manufacture which renders it inferior in keeping qualities to the best Danish butter?—I believe not. The Irish system has been undergoing a considerable change in the past seven years. Seven years ago there was a great trial at Manchester, and then the Irish people came over with very strong witnesses in favour of their system of pickling butter, and told the bench it was impossible to produce this butter unless they pickled it. Within the last two months analyses have been made by Mr. Thorpe, of Limerick, of a number of samples of Irish butter from creameries, and the average per cent. of water in those samples was 12½, or precisely the figures given in France and Germany as examples of what good butter should be.

I think when the Irish butter people have entirely adopted the Danish system which they have commenced to-day they will be able to do what the Danish people do. As regards the statement made that the public demand a preserved butter, I would like to say it is the trade which has provided this particular butter and has morally compelled the public to buy it. It has been said that the public would not revert to the salt meats of twenty years ago. I know as a matter of fact—I use the word advisedly—that with one exception in Ireland no bacon-curing factory uses preservatives, and if there is any bacon in the world which is mild-cured it is Irish bacon, which realises perhaps the highest price in the trade.

You would not be able to bring mild-cured goods with the same facilities without the use of preservatives?—Not without cold chambers. The Canadian Government has provided great facilities for the introduction of butter into England, and I do not know why they should not do the same thing with regard to meat.

The average price paid for French butter in this country is higher than that paid for English?—That is so, but it is in consequence of the fact that the French butter that comes to England is the cream of the Normandy butter-making district, and therefore it is all good. In England we are not a butter-making people, and the only brands of butter that are sold at a good price are those of private makers who have private customers. The employment of preservatives was a premium upon bad work in the dairy.

With regard to colouring matters?—They are used in two or three makes of cheese only. No colouring matter is used in the manufacture of Cheddar or Stilton. It is used in butter, but the butter-maker could maintain the colour of the butter by the addition of a Jersey or Guernsey cow to every ten or twelve cows, and also by a selection of cows of the Shorthorn breed. He believed annatto to be perfectly harmless as food, but there were other materials used as colouring matters which were deleterious.

You support the view of the chamber that the use of colouring matters should be prohibited?—I do.

He had four recommendations to make to the Committee on the subject of their inquiry. Assuming that preservatives and colouring matters were allowed, he would, in the first place, suggest that where the facts were unknown as to the influence of preservatives on invalids and children they should be prohibited altogether; second, if it was decided to recommend the continued use of preservatives their use should be notified; third, that the seller should be restricted to one material and to a limited quantity; and fourth, that preservatives should be used only during the three hot months of the summer.

## MR. W. FISHER'S EVIDENCE.

Mr. W. Fisher, Aldrichian, president of the Society of Public Analysts, public analyst for Oxford, Berks, and Bucks, etc., examined by Professor Thorpe, said he appeared with Dr. Thomas Stevenson, of Guy's Hospital, to represent the Society of Public Analysts. The society had passed no resolution on the subject, and therefore the views he would put forward would be his own individual opinions, and must not be taken to represent those of the society as a whole. He had drawn up a statement showing the use of preservatives in articles of food, which he had handed in to the Committee. He found that the use of boracic acid was not very common in fresh meats, but it was sometimes used to preserve sausages. It was more commonly used in salted meats and in German sausages, and in such things as bacon and ham. The proportion of boracic acid in German sausage appeared to be something less than ½ per cent., and the proportion in bacon and ham was from ½ to ¾ per cent., although some samples of the latter he had examined were found to contain less than ½ per cent. Meat extracts appeared to be generally free from preservatives as far as his information went, but some kinds of potted meats contained a good deal of salt as a preservative agent, but nothing in the shape of boracic acid. The extent of the practice of preserving articles of food seemed to differ in various parts of the country. Dr. Bernard Dyer had sent him some valuable information on the subject, and of thirty samples of butter containing boracic acid the average quantity was under ½ per cent., the samples which contained more than ½ per cent. were very few.

Professor Thorpe: Have you arrived at any opinions as to what should be done with regard to the use of preservatives?—I think it is desirable that the free use of them should not be legalised—that some effort should be made to limit their use, because the use of preservatives has no doubt grown very considerably, and unless it is checked in some way it will still further increase, and it will become very difficult, if not impossible, for persons to get articles of food free from preservatives, unless some means are devised of letting them know they contain preservatives.

In other words, you recommend that the fact of a preservative being present should be declared?—Yes, in some cases, but in some other cases they should be prohibited altogether. My desire would be to entirely prohibit preservatives in milk. I do not ask the Committee to legalise the sale of milk containing boracic acid, but if they do they should fix a limit of the amount of boracic acid which it contains, and the presence of the preservative should be declared.

Assuming that it was found necessary to legalise the use of these preservatives, and that it was considered expedient that the nature of them should be declared, I understand that you would further recommend that some limit should be imposed as to the amount in which they should be used?—I think that would be desirable. The facts which I place before the Committee show that there is great variation in the amount added to milk. He recognised that there would be some difficulty in determining the exact amount of preservative in any given article, but he did not think that difficulty an insuperable one. The Society of Public Analysts had not passed any resolution on the subject of the use



of preservatives. Some of the members thought they should be prohibited altogether. Personally he would suggest that new cream should be placed on the same footing as new milk, and not be allowed to contain preservatives. With regard to fresh meats and fish he would not allow any preservatives, but salted and preserved meats might be allowed to contain a small percentage. He would fix a limit of the amount, which should be a small one. He did not feel justified in saying that preservatives should not be allowed in bacon and ham.

With respect to copper in peas?—Copper in peas is one of those things in which there is no limit, and you get such a large amount of conflicting evidence in such cases that I have advised my authorities not to prosecute, and therefore they do not take samples.

By the Chairman: It was fairly easy to get an estimate as to the quantity of copper in the peas, but the difficulty was to get satisfactory evidence as to the effect which the copper had upon the system.

Professor Thorpe: The object of the copper is, of course, to restore the colour of a faded pea?—No doubt it is to make it a good colour.

Do you consider it an objectionable practice to add copper to peas?—Yes, I think it is. I think that if people buy preserved peas they could be got to buy them without the addition of copper.

You put the ground of your objection on a possible danger to health?—Yes; I think there is a danger to health when the percentage of copper reaches a certain amount.

But is it not a fact that the use of copper in peas allows the substitution of a pea which has gone "off colour" and which competes with a pea that has been preserved by a somewhat better process and which has retained its colour?—I think it very probable, but I do not really know.

#### DR. T. STEVENSON'S EVIDENCE.

Dr. T. Stevenson, scientific adviser to the Home Office and president of the Institute of Chemists, in reply to Dr. Bulstrode, said that he had devoted some attention to the question of the presence of preservatives in milk, and he was of opinion that they should be absolutely prohibited in that article. He did not think such a prohibition would have any effect upon the milk supply of London or other large towns. He did not think that the question had been sufficiently explored from a scientific point of view as to the use of preservatives generally, and he thought the Committee should undertake experimental work in order to arrive at definite conclusions on points which were at present in controversy.

#### MR. T. F. BLACKWELL'S EVIDENCE.

At the sitting of the Committee on January 18th, Mr. T. F. Blackwell said he was chairman of the firm of Crosse and Blackwell (Limited).

Sir H. Maxwell: Is the use of modern preservatives very general in preserved fruits and jams?—I should say not, as far as my knowledge goes. We do not employ them at all. Such articles are offered to us for purchase, but whether other people use them or not I cannot tell.

And, in short, they are quite unnecessary?—Quite unnecessary.

Suppose a manufacturer had a quantity of fruit which threatened to go bad in hot weather. I suppose he might in certain circumstances save that fruit by the application of a preservative?—Well, in this way: If more fruit was delivered than could be made up with sugar into jam the same day the probability is that the manufacturer would put it down to pulp either by boiling it, in the first instance, and then putting it away in what are called stock tins of two gallons capacity, which would undergo a preservative process of heat.

Would you be inclined to advocate any restriction or prohibition of the use of preservatives?—I do not myself know of their being used in that way—no chemical preservatives. There are two methods of preserving fruit in pulp—the one is that which I have just mentioned, and the other method is by boiling the fruit and then putting it away into large bottles or casks, in which case the bottles or casks are fumigated with sulphuric acid gas.

Do you manufacture potted meats or potted fish?—Yes.

Well, I suppose we may assume that in some instances preservatives are used?—No. No preservatives of any kind are used by us, and I cannot assume that other people do.

When I tell you that out of 2,984 samples of various articles of food, including brawn, preserved fish, jam, preserved fruit, preserved vegetables, lime-juice cordials, syrups, &c., a certain proportion of each of these articles, excepting preserved fish, have been found on analysis to contain either boracic acid, salicylic acid, formalin, or sulphates, I suppose we may assume that they are used to a certain extent. Well, it is clear they are used in those cases where they have been found, but I can say for my own firm, and I think I can state also for other firms, that they in no case use any of these preservatives.

They are quite unnecessary? Quite unnecessary.

Do you think that they ought to be prohibited? I do not say that, if they are used in moderate quantities.

Do you think that a declaration ought to be made on the label? Yes; I see no objection to that. I think that ought to be done in all cases.

I do not want to be unduly curious, but can you tell us if there is any article which you manufacture in which these preservatives are found to be necessary? No: we do not use them at all. I should tell you, perhaps, that we sell all our potted meats and articles of that kind in hermetically closed vessels. They do undergo a process of preservation by heat, and then any chemical addition is quite unnecessary.

Then we will turn to colouring matters. There are certain trade customs to which the public have been used. We have been informed that the public like vegetables and preserves of an attractive colour; is that in accordance with your experience? Yes; if you are referring to preserved peas and vegetables, which are generally preserved abroad; in most cases they are coloured with sulphate of copper, and that has been because the public demand it. We have sold for a great many years one kind of preserved peas, and for a great many years we sold no other, in which no colouring was used; but our sale in this country has been exceedingly small—scarcely anything. We have sold a large quantity abroad.

But they are not popular in this country? No, the sale is extremely small in this country; but we have a considerable sale for export.

Would you see any objection if the necessity was imposed of declaring whether an article was coloured? No, I think it should be so declared. We now sell French vegetables in bottles. They are all slightly coloured, and we state in our price-list that these vegetables prepared in France are artificially coloured, and we should be quite prepared to state that upon every bottle.

There are certain colouring matters used in jams, are there not? The only colouring matter that I know of being used is extract of cochineal.

A harmless article? I believe it to be perfectly harmless.

The object of the practice is to give a uniform colour? Yes. You will understand that fruit on any given day varies in appearance, and it is very desirable that there should be uniformity of appearance, and it is sometimes necessary to use a very small quantity of cochineal to get that. I daresay that chemical colourings might be used, but I have no knowledge of it, although we are continually having aniline colours offered us.

Strawberry jam, I suppose, made in a factory, is of a somewhat brown colour? Not necessarily. It ought not to be. We get strawberries as early as eleven o'clock in the morning that have been gathered early the same morning in Kent.

And they retain the bright colour! Not necessarily, because there is a difference if the fruit is picked on a sunny day or otherwise.

For trade purposes it is desirable to have a uniform and attractive colour? Yes. The public look to receive an article that is uniform in appearance and flavour.

Do you manufacture any temperance drinks? We manufacture an article called lemon squash, but we manufacture that entirely from lemon juice and sugar; we do not add anything at all. We do not use any chemical preservative in it. We sell large quantities of bottled lime-juice, and we do not add any chemicals to it. We get complaints now and then that it is liable to turn a little mouldy, but we always explain that it is not possible to prevent it without adding some acid? I may state that as regards pickles, as far as I know, they are never coloured now, and they have not been for the last forty years.

Would the use of a preservative in lime-juice be convenient? Yes, I think it would. It prevents the mould.

It is pretty generally used, I believe? I should say that it was.

Would you be surprised to hear that out of 75 samples tested by Somerset House 88 per cent. contained either boracic acid or salicylic acid? Well, I am rather surprised to hear that such a large proportion contained preservatives.

Have you any experience of other colouring matter besides cochineal? No. The only article that I know of in our business which is coloured is essence of anchovies. That is coloured to give it a pleasing appearance. It always has been coloured. We tried some years ago to introduce an uncoloured essence of anchovy, but without success.

Dr. Bulstrode: You said that your firm would have no objection to it being made compulsory that the presence of a preservative or colouring matter should be declared on the label? Yes.

Would they have any objection to the nature of the colour-matter or preservative being stated? No, I think not.

And you would have no objection, if it was thought necessary, to state the percentage? No, I think not.

#### MR. TABB THOMAS'S EVIDENCE.

Mr. J. T. Thomas, examined by the Chairman, said that he was county medical officer for Wiltshire. His attention was



directed to the matter of preservatives, particularly about eight or nine years ago, when he found serious results arising from the use of boracic acid in milk, more especially among young children. He had experimented on himself with boracic acid, and he found that taking the drug in doses starting with 5 grains and going up to 10, and taking 15 grains a day, his digestive organs were completely upset. He had come to the conclusion that boracic acid certainly should not be used in milk. He believed that many poultrymen dusted a mixture of boracic acid and flour on their poultry, and that he considered it an objectionable practice. Witness here handed in a pamphlet which he said had been sent broadcast to the medical profession throughout the country by the Borax Syndicate. It contained expressions of opinion by medical men as to the non-injuriousness of boracic acid, and he believed the medical profession were apt to be misled by reading such literature, instead of inquiring into the matter for themselves.

It has been suggested that a declaration should be extracted from the vendors of any substances containing this preservative. What is your view? I don't think that would do any good whatever, for the reason that the sale of these borax preparations is in the hands of a very wealthy syndicate, and if they go to the trouble of sending these expensive pamphlets to medical men they will be sure to send round to poor people and tell them it would be an advantage to have their milk preserved, as it would keep longer.

If you found it to be the case that many large creameries never put preservatives into their butter, would your opinion as to the necessity for their use be modified? Yes, it would certainly. Continuing, witness said he certainly did not think that milk should be allowed to be coloured even with a harmless colouring matter, because it was simply due to induce the consumer to believe he was getting a better article. He did not think that colouring matters were necessary either in butter or cheese. The object originally of using the colouring matter in cheese and butter was to produce a very rich-looking article; but the practice had been carried a long way past that stage now. He did not know whether the committee were inquiring into margarine, but he would prohibit the colouring of margarine, or if that was not possible he would insist upon such a colouring that it would be perfectly easy for anyone to distinguish at once margarine from butter. He would suggest a higher-toned yellow should be adopted, and he was surprised that that point had not been brought forward before. If it was necessary that margarine should be yellow it should be made a very high colour indeed. If that were done it would prevent any immense amount of fraud. The public analyst at Trowbridge recently sent three sausages for analysis, and the samples were reported upon by him as containing 0.6, 0.7, and 0.8 per cent. of boracic acid per lb. Those samples were taken in the middle of November, and if that quantity was used by manufacturers at that season of the year, what percentage would be used in the summer time. In addition colouring matter was also present in the sausages.

#### PROFESSOR W. H. CORFIELD.

Professor W. H. Corfield, medical officer of health for St. George's, Hanover Square, W., replying to the Chairman, said he had paid most attention to the presence of salicylic acid and boracic acid in food. He had found salicylic acid in the lighter kind of wines—British wines for instance. As a physician he thought that was a most undesirable substance to be added to food.

Do you think that people ought to know when they are consuming it? I do, certainly, and with regard to both those substances—salicylic acid and boracic acid—I think it exceedingly undesirable that they should be used in articles of food such as milk, even if it could be shown that they were perfectly harmless, which I do not believe is the case. Continuing, witness said that the difficulty in fixing a limit as to the amount was that the preservative might be added by two or three different people. He would advocate the prohibition of the use of preservatives, unless it could be clearly shown that they were perfectly harmless. Salt was a food, and stood on a different level from other preservatives. He would be inclined to prohibit the use of saltpetre unless it could be shown that it was perfectly harmless. He did not think that the prohibition of the use of preservatives would have any serious effect upon the milk supply of towns.

By Dr. Bulstrode: In his opinion, if chemical preservatives were used in sufficient amount to act as a preservative, they would do harm to the digestive functions.

By Dr. Tunnicliffe: His attention had not been drawn to copper in peas for a great many years. When he was a public analyst he had been in cases where copper was present in preserved vegetables. He objected to the use of preservatives in butter, but not so strongly as he did to their use in milk, for milk formed the staple diet of many children and invalids.

The Committee then adjourned.

#### MR. W. COLLINGWOOD WILLIAMS'S EVIDENCE.

The Committee sat on January 19th.

Mr. W. Collingwood Williams, assistant public analyst for Liverpool and analyst for several other towns in Lancashire, said in Liverpool they examined about 3,000 samples of different kinds of foods every year. The most frequent preservatives found

were boracic acid, formaldehyde, and salicylic acid. The milk supply of Liverpool was conducted almost entirely without the use of preservatives. An attempt to obtain a conviction for the use of salicylic acid in temperance wine had not been successful. Boracic acid was used to preserve cream, and quantities varying from 17 grains to 38 grains to the pint were found. One of the samples they had was quite unfit for use, although it showed no signs of being bad. From May to December they examined about 200 samples of butter, but of 222 samples of butter they found 56 samples contained boracic acid, and the quantity found was from 2 grains up to 62 grains per lb. The usual quantity of boracic acid was from 10 to 30 grains. The percentage of preserved butter was greater in the summer months. Nearly all the samples of margarine which came before them contained boracic acid. Those samples of margarine were sold to the inspectors as butter.

The Chairman: Margarine is very extensively used in cooking?—Yes. The quantity of boracic acid used is not so large as in butter. About 20 grains is the usual amount.

Assuming that boracic compounds are hurtful to certain individuals and are present both in butter and margarine, these individuals would be more likely to suffer from the presence of preservatives in margarine than in butter, would they not, owing to a larger amount of margarine being used in cooking, and so on?—I do not think so.

Continuing, witness said they had examined six samples of ham, of which four contained borax. They were actually cured with borax, for it was found in the substance of the meat. It was a common practice to dust the outside of hams with borax, but they had not taken any notice of that. The amount of borax in the four samples of ham was 4, 6½, 7½ and 24 grains per lb.

Have you any reason to know that they were cured with borax, or that that substance found its way into the meat after mild curing?—In cases where borax has been only on the surface we have not found that it penetrated into the meat, and we always reject the outer portion and analyse from the centre. They had, continued witness, examined six samples of bacon, three of which were found to contain boric preservatives within the substance of the meat. The quantities found were 2½, 5 and 8½ grains to the pound. Five samples of sausages were examined, two containing borax. As regarded jam, they had examined about twenty samples recently, and they found that fifteen of them were preserved with salicylic acid. The quantity was very variable. They had found as little as ¼ grain in strawberry, and as much as 4½ grains in black currant jam per pound. The fruit was sound in all cases except one, which was a sample of raspberry jam without preservative. They examined seven samples of bottled fruits, none of which contained preservatives, and samples of damson and apricot jam were also found to be free from preservatives.

By Professor Thorpe: He strongly deprecated the use of formalin as a preservative. The potted creams he spoke of were all obtained from grocers. He would imagine that boracic preservatives would be needed far more by the grocer than the dairyman. He did not think that borax would have any appreciable effect upon melted butter or margarine; but he had never experimented on that point. When he alluded to margarine, in reply to the chairman, he referred to mixtures. He did not think that preservative was much needed in margarine, although he had found unpreserved margarine go perfectly mouldy. They had hoped that the use of salicylic acid in jam had decreased, but in the last three months their hopes had been dashed to the ground, because they had again found the maximum amount. It was only certain manufacturers who used it. If the jam was properly made he did not think that there was any need for salicylic acid, and he thought, in the public interest, such a dangerous drug ought to be prohibited.

Replying to Dr. Tunnicliffe, witness said he saw no reason why jam made from imported fruit pulp should be preserved, because the pulp was imported in a sound condition.

In reply to the chairman, witness said that they almost invariably found copper in peas. The quantity was less in amount now than formerly, which went to show that the very smallest quantity would colour the vegetables. A considerable number of convictions had been obtained for copper in peas. They prosecuted for anything over two grains per lb. The smallest quantity he had found was one quarter grain, and if that was sufficient to colour the pea, he did not think a larger quantity should be used. He very seldom now met with a sample containing more than 1½ grains, but a few years ago it was a very common thing to find 2½ grains. He knew that many spices were artificially coloured, but he had never been able to ascertain the exact nature of the colouring. Pepper was coloured to suit the taste of the purchaser, who liked a bright, yellow-looking pepper rather than one in its natural colour. He thought in many cases it would serve a useful purpose if the salesman was obliged to notify where an article was coloured or preserved. He did not think that in the case of butter or cheese such a declaration was necessary. He was not prepared to absolutely restrict copper in peas, but he thought the quantity allowed should be strictly limited. If colouring were prohibited he feared they would not sell.

(To be continued next week.)



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

In the Queen's Bench Division, on January 22nd, before Mr. Justice Channell and Mr. Justice Bucknill.

BENNETT v. TYLER.

CHEWING-GUM.—Mr. W. R. Bray, Q.C., and Mr. MacNaghten appeared for the appellant, and Mr. Earle for the respondent. Mr. Bray stated that this was an appeal by Mr. Bennett against two convictions by the Teddington magistrates, under Sections 3 and 6 of the Sale of Food and Drugs Act, 1875. The special case stated that appellant was charged with selling to the respondent, W. Tyler, inspector of weights and measures, in May, 1899, a certain article of food, namely, chewing-gum, which was mixed with 8·3 per cent. of paraffin wax, so as to render it injurious to health, contrary to Section 3, and also with selling the same article, to the prejudice of the purchaser, which was not of the nature, substance, and quality demanded, contrary to Section 6. The magistrates found appellant guilty of both offences and fined him accordingly. Appellant sold groceries and sweets at 5, Park Road, Teddington, and on the day in question his mother sold to the respondent inspector twelve packets of Barratt's anised chewing-gum, which was chewing-gum made up in packets and sold at four a penny. On each packet there was a label which said:—"This must not be eaten, but chewed only." The magistrates found that the gum was sold as an article to be chewed, and not as an article of food to be eaten in the ordinary sense. The paraffin wax could not be dissolved in the mouth, nor could it be masticated by the teeth, but was capable of being swallowed whole. The composition contained 8·3 per cent. of paraffin wax, which was enough to render it injurious if passed into the stomach. If it was used in the manner intended it was not in any way injurious. Respondent contended it was an article of food within the meaning of the Act, and therefore appellant was rightly convicted, as the labels were no protection whatever to small children who could not read. The appellant, however, contended that gum was not an article of food, and was not injurious to health within the meaning of the section. After hearing arguments on both sides, Mr. Justice Channell said the difficulty was that the case had not been sufficiently stated. As it stood they thought the appeal ought to be allowed, but it by no means followed that there might not be facts stated in regard to this particular article which would bring it within one or other of these sections. As he did not wish to prejudice any further proceedings he would express no opinion on the points they had been discussing. All he said now was that on the case as stated they thought the appeal ought to be allowed, and the convictions would therefore be quashed accordingly. Mr. Justice Bucknill concurred.

BUTTER AND MARGARINE PROSECUTIONS.—At Marylebone, on January 19th, Louisa Jones, 52, Elgin Avenue, W., was summoned for selling butter containing 87 per cent. of foreign fat. The defendant pleaded guilty, but stated that she was ill when the purchase was made, and had to leave the shop in other persons' hands. Mr. Dennis, prosecuting, said that in November, 1898, the defendant was fined 20s., with 12s. 6d. costs, for selling adulterated butter. Mr. Curtis Bennett imposed a fine of £5, with 12s. 6d. costs.—George Thomas, 57, Goldney Road, W., was summoned for selling butter which was all margarine. Mr. Ricketts defended and said his client did not suggest that the article sold was butter. He pleaded guilty. The butter was sold by mistake by a person employed as bookkeeper. It was kept next to the butter, and only 3 lbs. of it were sold in a day. Mr. Dennis said that on November 10th, 1898, the defendant was fined 40s., with 12s. 6d. costs, and as far as they could make out he had also been convicted in the name of Jones, but Mr. Ricketts strenuously denied the second conviction. Mr. Curtis Bennett said that at least this would be a second conviction. He fined the defendant £5, with 12s. 6d. costs.—John W. Lloyd, 75A, Fernhead Road, W., was summoned for selling as butter an article containing 91 per cent. of foreign fats, and pleaded guilty. In May, 1897, the defendant was fined 20s., with 12s. 6d. costs, for selling adulterated milk, and in May, 1898, he was fined £5, with 12s. 6d. costs, for selling adulterated butter. Mr. Curtis Bennett imposed a fine of £10, with 12s. 6d. costs.

At Chester, on January 19th, Harriett Tomlinson, Overton, Malpas, was summoned for selling butter containing 11 per cent. of foreign fat to Inspector Wharton. Mr. S. Smith, Town Clerk, prosecuted. Defendant did not appear, and Mr. E. Brassey, solicitor, on her behalf submitted that the summons was bad, inasmuch as it had only been served on the previous Saturday, whereas it should have been made returnable in not less than

seven clear days from the time of the service. The Bench dismissed the case.

At Lambeth, on January 19th, Henry Harbert, coffee-house keeper, Beresford Street, Newington, S.E., was summoned for selling butter, spread upon bread, which was not of the nature, substance, and quality of the article demanded by the purchaser. Inspector Selby caused a sample of bread and butter purchased at the defendant's shop to be analysed, and the public analyst certified that the butter contained 60 per cent. of margarine. The defendant said he bought it as butter. Mr. Francis: If that is so I suppose you have good cause of action against the person from whom you bought it. Defendant was fined 20s. and costs.

At Ayr, on January 19th, James Henderson, Castle, New Cumnock, was charged with having sold butter found to contain 75 per cent. of fats foreign to butter. Accused pleaded guilty, and was fined £3, including costs.

At Kingston-on-Thames, William Youldon, 98, Acre Road, Kingston, was summoned for vending as butter margarine worth 4d. per lb., and charging 1s. 2d. per lb. for it; and for selling margarine not labelled as such. Defendant stated he was a baker, and Inspector Houghton's call nearly knocked him down. He was fined £3.

At Pontypool, on January 20th, Jones and Co., General-market, were summoned for selling margarine unlabelled. Mr. Gustard prosecuted. Inspector Lewis gave evidence and said he asked for half a pound of butter. The assistant replied that he had no best butter. Witness pointed to some on another counter and inquired what that was. The assistant tasted it, and remarked that he did not think it was butter but a mixture. Witness asked for half a pound, and the assistant who was temporarily in charge of the shop then discovered he had no margarine wrappers. Eventually witness received the margarine in a piece of plain paper, and it was sold as a mixture at a shilling a pound, which was a high price for margarine. The assistant said he did not know what to sell the margarine at because he had not been told what it was. He was reluctant to supply the article, and had to be reminded that he would be liable to a £10 penalty if he refused. Mr. Webb for the defence said the assistant was employed for packing purposes. The manager had gone out for an hour, and gave him no instructions to sell—in fact, it was seen from the inspector's evidence that he was unwilling to sell. He (Mr. Webb) was instructed that the shop was only partially open, and the margarine was labelled on the side next to the closed shutter. The Bench said they treated it as a minor offence, and imposed a fine of £1.

At Sunderland, on January 23rd, Joseph Shields, grocer, Hendon, was charged with selling "butter" containing 100 per cent. of margarine. A woman named Reed, on December 18th, visited defendant's shop and bought a pound of butter for 1s. 2d. There was no label upon the pile from which Mr. Shields' assistant cut her pound, nor did he say anything in serving her. Defendant said his assistant in cleaning up the shop had changed the positions of the butter and margarine, and in serving the witness afterwards mistook one for the other. He pleaded guilty. A fine of £10 and costs was imposed.

At Lambeth, on January 23rd, James Hughes, Hercules Road, Lambeth, S.E., was summoned for exposing margarine for sale without having the same properly labelled. Inspector Perrin proved the case. Mrs. Hughes said the label accidentally slipped down. She told the inspector the article was margarine, and did not supply it to him as butter. Mr. Hopkins, the magistrate, told her she must look after her labels. She was sure to be fined if she did not. Defendant was fined 10s. and costs.

GOLDEN SYRUP PROSECUTIONS.—Mr. Beck hoist with his own petard.—At Wellingborough, on January 19th, Alfred R. Batt, manager Midland Stores, Market Street, Wellingborough, was summoned for selling golden syrup adulterated with glucose. Mr. F. W. Beck, solicitor and author of a handbook on "The Adulteration Acts," compiled for the Grocers' Federation, appeared for the defendant, and pointed out that the managing director of the company and the secretary of the company were mentioned in the summons. They could not all be liable, and he asked the prosecution to say which person the proceedings would be taken against. Mr. J. Heygate, who prosecuted, said that they would proceed against Batt. Mr. Beck objected to the summons as being invalid, and stated that under the new Food Act, which came into operation on January 1st, it was necessary that particulars of the offence alleged should be given, and that an analyst's certificate should be served. Mr. Heygate pointed out that the offence was committed under the old Act, and the proceedings were accordingly taken under the old Act. Mr. Beck then argued that the information was laid on January 8th, and the procedure would apply under the new Act. Mr. Heygate replied that if the bench ruled against him, fresh summonses would be necessary and be taken out. The bench overruled the objection, and the case proceeded. Mr. Beck asked for a note to be taken of the objection. Mr. Heygate said the analyst's certificate showed that the syrup contained twenty-five parts of glucose syrup and seventy-five parts derived from sugar. Inspector Mattinson stated that on December 18th,



he asked defendant, among other things, for 1 lb. of golden syrup, for which he paid 3d. Defendant told witness that what he had supplied was "amber syrup;" that he had not had the brand in long, and that he had better have it back. Witness refused to let defendant have it, and said that amber syrup was made with the same article as golden syrup. One of the parts he sent to the county analyst on December 20th, and on January 3rd, witness received the certificate. Cross-examined: Witness laid the information on January 8th. The analyst's certificate was received on January 2nd. He had no personal knowledge of the manufacture of golden syrup or glucose, and he did not suggest they could get syrup except from sugar cane. It was unquestionably golden in colour. If he went into a shop and asked for syrup he should expect the product of the sugar cane. Mr. Beck said that he would rely on his objection that the proceedings were improperly laid. The Inspector had stated he had no personal knowledge of the manufacture or constitution of golden syrup, and he submitted there was no evidence before the court as to what the standard of golden syrup should be. The article sold was golden syrup, and the analyst's certificate did not say it was otherwise. It was idle to say that the word "syrup" proved it to be the product of sugar cane. Glucose had for many years been used in the manufacture of golden syrup. It was not used for passing off the article as a better article, but for the purpose of improving the substance. The addition of glucose to treacle was made for the purpose of improving the colour and preventing crystallisation. *It was not a cheaper article.* It was made from grapes and had almost the same sweetening properties as treacle. Mr. Heygate, in reply, said that no expert evidence had been called to prove the contention of the defence. The analyst's certificate stated that the glucose was a "foreign ingredient." It was only after the defendant found the witness was an inspector that he told him the substance was not "golden syrup" but "amber syrup." Mr. Heygate then quoted from book, Mr. Beck's "The Adulteration Acts," but Mr. Beck objected, not on a point of law, but as a matter of etiquette. Mr. Heygate said he was paying Mr. Beck a compliment by quoting him as an authority. The extract as follows: "In selling golden syrup, unless you have a distinct warranty as to purity, see that it is labelled, 'This syrup contains glucose and is sold as a mixture.'" Mr. Beck said this was unfair to quote his work, as he had no opportunity of reply, and the suggestion quoted was not a matter of law, but a matter of caution to grocers. The Chairman said that the bench had decided to convict and would fine the defendant £3 and costs. Mr. Beck: I ask for you to state a case upon the point of law raised, upon the ground that the summons was not served in accordance with Section 19, having been served at a less interval

than fourteen days; that a copy of the analyst's certificate did not accompany the summons; and that there is no evidence before the court as to the standard of golden syrup. The bench granted Mr. Beck's application.

At Boston, on January 19th, Edward Crawford, grocer, High Street, was summoned for selling adulterated golden syrup. The certificate of analysis showed that the article was adulterated with 80 per cent. of glucose syrup. Defendant said that he sold the treacle exactly as received from the makers, Fined 20s. and costs.

**EXCESS WATER IN WHISKY.**—At Lambeth, on January 24th, Frederick George Barnard, secretary to Messrs. A. J. Smith and Co. (Limited), of Goldhawk Road, Shepherd's Bush, W., and several other shops, was summoned for selling to the prejudice of the purchaser Irish whisky which was not of the nature, substance, and quality of the article demanded by the purchaser. Mr. J. P. Grain defended. Acting under instructions from an inspector, a boy named Axten entered one of Smith's branch establishments in Walworth Road, S.E., and purchased a bottle of Irish whisky, for which he paid 2s. The bottle bore a label, on which were the words, "Irish whisky 2—38 under proof." A sample of the whisky was submitted to the public analyst, who certified it to be 34·6 under proof. Mr. Grain showed that the purchaser got a better article than was intended. Mr. Hopkins pointed out to Inspector Danson that the label upon the bottle was in strict accordance with the requirements of the Act, and asked why he took out the summons. Inspector Danson replied that he took the proceedings by the direction of a committee of the vestry. Mr. Hopkins said he could not convict and dismissed the case.

At Sleaford Petty Sessions, John Brothwell, landlord of the Coach and Horses Inn, Billinghay, was summoned for selling adulterated whisky on his licensed premises. It was proved that defendant had sold whisky which was adulterated to the extent of 29·43 per cent. Defendant had nothing to say, and was fined £2, and costs, but the license was not endorsed.

**DEMERARA SUGAR PROSECUTION.**—At Pontypool, on January 20th, Jones and Co., grocers, were summoned for selling Demerara sugar which was not of the nature, quality, and substance demanded. They pleaded guilty and the evidence showed that the sugar upon analysis was white crystals dyed with aniline. The Bench imposed a fine of 20s.

**EXCESS WATER IN TOBACCO PROSECUTION.**—At Sheffield, on January 18th, The Brightside and Carbrook Co-operative Society were fined £3 for offering for sale tobacco containing excess of water above the legal limit. The tobacco contained 32·1 per cent. of moisture. It was bought from the Wholesale Co-operative Society, who alleged it was right.

## Official Reports.

### Rugby Rural District Council.

THE question of what steps the Council should take under the new Food and Drugs Act has been considered by the Council. It is an open secret, however, that they will recommend that the Inspector of Weights and Measures be appointed County Inspector under the Act. The Rural County Inspectors will still be inspectors of meat, and responsible if they allow any bad meat to be sold in their districts. The new Act does not affect that part of the Inspectors' duties. With regard to the Inspector's other duties, he will only take samples when instructed, and the District Council will have to pay for them instead of the analysis being made at the cost of the County Council. It has been decided to take no steps in the matter at present.

Whether this will meet with the approval of the Board of Agriculture has yet to be learnt. It is too soon to awaken Mr. Long and Mr. Elliott from their slumbers.

\* \* \* \*

### Lindsey County Council.

The County Analyst (Dr. John Muter) during the quarter has had 56 samples submitted for analyses, of which four were adulterated. There were three prosecutions resulting in each case in convictions.

"The Sanitary Committee has considered and reports the Sale of Food and Drugs Act, 1899.—It is now the duty of every Local Authority entrusted with the execution of the laws relating to the sale of food and drugs, to appoint a public analyst and enforce the provisions of the Act, particularly with reference to the taking of samples by their officers for analysis, and if default is made in this

respect the Local Government Board or Board of Agriculture may appoint their own officers to perform the duties at the expense of the defaulting authority. Prosecutions in cases of purchases for test purposes must be instituted within 28 days from the date of purchase, whether the article is perishable or not, and a summons cannot be made returnable in less time than fourteen days from the day on which it is served, and a copy of the analyst's certificate obtained on behalf of the prosecution must be served with the summons. This will necessitate the completion of the analysis with great promptitude, and as this must be made personally by a duly appointed public analyst, it may become necessary to appoint more than one public analyst, so that samples may be properly analysed, and the certificates be available within the limited period allowed. Resolved that the working of the Act be carefully watched, and that the Chief Constable be requested through the Standing Joint Committee to make immediate provision for the systematic taking by the Inspectors of samples of a more widely extended class of food and food-stuffs than has heretofore been deemed necessary." In discussing this report, the Chairman, Mr. W. Embleton Fox, said that with respect to the Sale of Food and Drugs Act, Lindsey did not stand in need of the receipt of the Local Government Board's order to appoint a county analyst. They had had one many years, and the Committee believed their machinery would be able to cope with the new Act. If not, they should ask for a further appointment. What the Committee wanted was that the Inspectors should take a wider range in procuring samples for analysis. There was one matter in which the Act had failed, and that was with regard to the penalties. As a magistrate, he wished to



speaking with all humility of his brother magistrates, but he thought that some times they did not reflect on the seriousness of those cases. Really, they were thefts, though not in name; they were thefts extremely difficult to detect; they were thefts which were extremely profitable, thefts which caused a good deal of loss on one section of the community least able to bear it; they inflicted a serious injury on the honest trader, and might also injure health. He should like to see his brother magistrates rise to the occasion. The minutes were confirmed.

\* \* \* \*

#### Bovril Ltd., advances by leaps and bounds.

THE critics who asserted that Bovril was overcapitalised and questioned its permanent value have their gloomy prognostications falsified in the report of the Company's working during 1899 just issued. We have always held the belief, based on a real knowledge of the value of the Company's products that as a dividend-earning business Bovril is yet in its infancy. It has America, our Colonies, and the Continent in which to make the consumption of Bovril as large and popular as it in the United Kingdom, and above all, it has in its main speciality no competitor worthy of serious consideration. To our thinking these facts have never been taken at their true value in appraising Bovril's shares.

The report of the directors for the year ended December 31st, last states that the net profit amounts to £125,557, and the balance from last account is £1,773, making a total of £127,331. After payment of debenture interest, preference dividends, and interim dividend on ordinary shares of 7 per cent. per annum, the directors propose to pay a balance dividend of 7 per cent. per annum on the ordinary shares and a dividend of 2 per cent. per annum upon the deferred shares, leaving a sum to be carried to reserve of £7,500 and an amount to be carried forward of £2,331. The sales of Bovril and Bovril specialities have exceeded all previous records, even exclusive of Government orders. Of these Bovril, Limited,

has had a very considerable share, but by far the larger portion fails to be delivered after December 31st. During the year the Company's removal to the new warehouse premises from numerous scattered establishments involved considerable expense in connection with discontinuance of leases; but the consolidation in the future will be of great advantage to the business. The directors have rearranged the ground covered by their various branch offices. Their former system of partial buying agencies was more economical, but not so thorough in its working. The new system of covering the whole country by the company's own representatives involved, to begin with, increased expenditure and compensation for disturbance, although promising much better results eventually. Late in the year the directors deemed it advisable to take advantage of the exceptional circumstances then existing to make considerable extra expenditure in advertising, although such expenditure was not expected to bear immediate fruit. While the price of raw material has been slightly more favourable, the scarcity and much-increased cost of bottles, tins, and packing materials have not only increased the expenditure, but interfered with the prompt execution of orders. For the foregoing reasons the Company's profit during the past year has not kept pace with its ever-increasing business. The directors have great satisfaction in stating that the sales during the first four weeks of 1900 have considerably exceeded the sales of the first eight weeks of last year. The directors, although more than once approached, have not yet found an opportunity such as they could approve for developing, by a new company, the foreign and colonial business of Bovril, Limited. Political matters have rendered the time inopportune for such a movement. A new company has been formed to purchase and develop Virol, one of the specialities of Bovril, Limited. Bovril chocolate has met with much favour recently, and the machinery for its production has been doubled.

As regards the value of Virol and the position it ought to occupy in the market as a food for infants we shall deal fully with this in another issue.

## Books Received.

THE ADULTERATION ACTS, by Fred. W. Beck. Publishers, The Grocers' Federation, Ceylon House, Eastcheap, London, E.C., 6d.

WHEN anyone acquainted with the working of the Food and Drugs Acts and possessing expert knowledge is asked to recommend a solicitor for legal advice, two names immediately suggest themselves—Mr. W. T. Ricketts, solicitor, King's Cross, and Mr. F. W. Beck, solicitor, of Lime Street, London. Mr. Beck has prepared a book on the new and old Adulteration Acts, with notes and instructions, which should be studied by every trader, and the advice given followed. The book is one which every Medical Officer of Health and Food and Drugs Act Inspector ought also to possess. Including index, it contains only 55 pages, but there is no verbiage, and it is worth the money many times over. Considering how vitally the grocer is concerned in this question, we must confess to being surprised that the edition before us is only the *third thousand*. It ought to be the thirtieth.

Mr. A. J. Giles contributes on behalf of the grocers a manly straightforward exposition of the grocers' views and desires. There is only one important matter in which Mr. Beck is in error. In his introduction he states that the agitation to amend the acts originated with the Grocers' Federation. This, as our readers well know, is untrue. The agitation originated with the Editor of this Journal, and whatever amendments the new act possesses originated in *Food and Sanitation*. The only amendments of value in the Act are those put forward in this journal nearly eight years ago by the Editor and by Mr. Otto Hehner.

## Correspondence.

### The Camphorated Oil Prosecution Appeal.

#### A CORRECTION.

WITH reference to the case reported on page 47 of *Food and Sanitation*, Mr. Arthur E. Ekins writes:

"The County Laboratory,

"St. Albans,

"January 29th, 1900.

"TO THE EDITOR OF *Food and Sanitation*.

"Dear Sir,—In *Food and Sanitation*, dated January 27th, just to hand, on page 47, in Camphorated Oil Prosecution, at Luton, you say I was put into the box to give evidence, there is some mistake, as I have not been to Luton for some months, and certainly never gave evidence in this case.

"Yours truly,

"ARTHUR E. EKINS."



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## Food and Sanitation.

SATURDAY, FEBRUARY 10, 1900.

### War Transports and Food.

#### Is Our War Office as Corrupt as it is Incapable?

AS THE question has not been asked in the House of Commons, and it is necessary it should be asked because it may reveal a wholesale system of secret commissions and jobbery existant in our War Office, it is necessary to let Mr. George Wyndham have the opportunity of explaining the real case of our transports. He calmly claimed last week for the War Office, the credit of transporting with alleged lightning rapidity, our troops to South Africa, and in bombastic language, claimed it was a feat impossible

for the War Office of any other power. Needless to say, our "lot of dull M.P.'s in close proximity," as Mr. Gilbert in his bewitching "Iolanthe" pictured years ago our national talking shop, did not see the humbug of Mr. Wyndham's defence of his discredited department. First, as to our transports, the War Office can claim no credit for them, nor can Mr. Wyndham, Mr. Balfour, Lord Salisbury, Sir Wm. Harcourt, Lord Rosebery, or any leading men of either party.

The ships which conveyed our troops to South Africa, were built by the orders, and paid for by the cash, of the middle class—by men of the type of the Ismays, the Donald Curries, the Jones, etc. Any credit for the vessels being available is not due to the War Office, but to the class they have never lost a chance of sneering at, as traders not in society. What then has our War Office to congratulate itself upon? Most of the ships which took our troops to South Africa, were beautifully fitted for comfort of passengers and ready to start at a few hour's notice, but that did not suit the jobbery and incapacity of our War Office. The perfect fittings had to be taken out, the vessels gutted, and weeks spent in putting in entirely unnecessary fixtures *à la* War Office, in order that enormous sums of England's money could be jobbed away and "pickings" be had. The vessels, of course, have to be refitted as they originally were, and then there will be more "pickings." It is possible this is not a "job," but if it be not one, what a colossal satire on Mr. Wyndham's credulity! So much for Our Soldiers' Transports.

Now as to Our Soldiers' Food? Many of the vessels chartered take from 1000 to 2000 passengers each, and could supply fresh meat throughout longer voyages than that to South Africa, but although thousands of tons of really nutritious food were to be bought from various cold stores in Liverpool, London, and other parts of the country, our troops were supplied with rotten meat, or "embalmed" tinned rubbish from Chicago, almost devoid of nutritive value.

A Chicago correspondent, in the victualling trade, writes about this American tinned meat. The processes employed deprive the meat of all its valuable qualities, putrid meat is mixed with the good, and workmen are often detected in the act of introducing putrid meat.

"The fatal sickness of the American army in front of Santiago, was clearly traceable to the use of these poisoned goods."

Our contemporary, *The Grocer*, very sensibly asks: "Why should we read in *Truth*, that on one transport a company of engineers was employed for some time in throwing over sack after sack of potatoes which had gone bad?" Or again, why should our soldiers be put on such rations as this between England and Cape Town:—

Monday, 12 oz. preserved meat; 12 oz. biscuit.  
Tuesday, 12 oz. salt pork; preserved potatoes; bread.  
Wednesday, 12 oz. salt beef; 12 oz. biscuit. Thursday, 12 oz. preserved meat; 2 oz. preserved potatoes; bread.  
Friday, 12 oz. salt beef; 12 oz. biscuit. Saturday, 12 oz.



preserved meat; bread. Sunday, 12 oz. salt beef; preserved potatoes; biscuit.

Small wonder we should read of their arriving in South Africa looking more like scare-crows than like the healthy strong men commonly landed on Table Bay after that healthy voyage."

As nutritious fresh beef and mutton could be had in the quantity required, and the vessels nearly all possessed "cold storage" plants ample for fresh food to feed the passengers carried, or could be fitted with small refrigerators at once, it is truly wonderful how any official could glorify as Mr. Wyndham did this abominable instance of War Office incompetence, jobbery, and "embalmed flesh" sold as beef, some of it years old, and packed as long ago as 1866. Mr. Wyndham and his

colleagues ought to be made to eat the trash, and if they survived, they would tell a different story about War Office infallibility. With these facts before us, it is hard to believe that our War Office is not as corrupt as it has been proved to be incapable, and it is very certain that a searching enquiry into these scandals ought to be instituted when the whole question of the conduct of the war forms the subject of a real national enquiry. Rifles which can only be aimed accurately when fired by a shootist with a sinister squint, shortness of ammunition, inferiority in guns of long range, no accurate maps of our own territories—these, and the many other scandals, are too anent Marshal Lebœuf and the French War Office, in the Franco-Prussian war of 1870, to satisfy Englishmen, even when backed by Mr. George Wyndham's bombastic undeserved War Office eulogies.

## The Grocers' Federation and Warranties.

THE Grocers' Federation has shown its keen interest in the affairs of the trade in many ways, but there is one gross abuse which we believe it could remedy if it were so minded. The Federation is strong, and it has the support and sympathy of the best of the retail trade. We believe if it took up the question of insisting upon wholesale houses giving full warranties under the Sale of Food and Drugs Act upon their invoices, that the wholesale dealers would be compelled quickly to do the retailers justice. It is monstrous that retailers should be the scape-goats of manufacturers in the manner they now are, and in securing justice for themselves, they can count on the support of Food and Drugs Act Inspectors, as was clearly shown by

Mr. B. Scott-Elder, Chief Inspector for Durham County, in our last issue. If manufacturers and wholesale dealers figured oftener in our courts, instead of their victims, and suffered loss of trade and reputation retailers now endure, it would be a good thing for the public and the trade. There are many towns where the Associations are strong enough to compel proper warranties from wholesale dealers if they unitedly resolved to refuse to deal with any who shirked properly warranting the purity of their goods, and if the Federation with its well known energy brought the matter under the notice of the Associations to secure concerted action, much good would be done, and the thanks of the trade and the public well deserved.

## How Our Railways Strangle Some Industries.

SEVERAL leading representative Irish traders waited on the Limerick County Council to ask them to oppose the amalgamation of the Waterford and Limerick Railway with the Great Southern and Western. Mr. Shaw said through partial railway monopoly that existed in Ireland, Irish dairy produce was seriously handicapped. The rate on eggs from Galway to London was 94s. a ton, while Danish eggs were carried from Copenhagen to London for 25s. The 70s. extra was a direct loss to the country. As regards the bacon traffic and the other dairy produce, it was substantially the same.

We doubt if justice will ever be done to home industries until railways are owned by the State. The other day the cheap workmen's tickets which procure healthier homes for London's over-crowded workers, with the resultant better work, were the subject of a violent denunciation by Lord George Hamilton—surely the height of insufferable impertinence, when it is the fact that Lord George Hamilton has for years pocketed £2000 per annum of public money as a pension without ever having earned

it by any meritorious, or even passably useful public work whatever. This "Tite Barnacle" knows nothing from the real point of view of trade and its needs, but he chairmans a Railway Company and denounces better citizens because they prefer fresh air to slum air, and ask that at hours when our railways have scarce traffic, the pockets of the poor and their health be taken into account.

It must be very consoling to the English tax-payer to know that Lord George Hamilton draws £2000 per year pension when out of office, because he helped to bring our War Office to its present shameful state, and that Sir Michael Hicks Beach takes £1200 per year of public money, when out of office for similarly assisting in ruining England's prestige, and that although wealthy men both—they plead poverty to get this money from the public purse. A little more rising by merit in the public service, and less by "society status," would be better for England. As this class of man knows nothing of England's trade and its requirements outside of books, what wonder that he should strangle it?



## Reports and Analyses.

### What is Cider ?

A WRITER in the *Grocers' Monthly* deals with the many liquids sold as cider and the impositions now practiced upon the public in that drink. Anent the sale of flavoured mineral waters as cider he asked an "Expert:"—

"How is the 'faked' cider usually put on the market ?

"In various ways. Large quantities are sold without having any name attached to it. Some call it 'Guaranteed Cider,' others 'Sparkling Cider,' 'Champagne Cider,' and such like, but probably comparatively little of it is genuine. In many cases it does not contain more than 15 per cent. of genuine cider, whilst in probably the majority of instances it would be found not to contain any."

"What would you suggest as a remedy for the sale of spurious cider ?" was the next question.

"The passing of a law which would make it an offence—punishable in the first instance by fine, and the second by imprisonment—to sell any article as cider which was not genuine cider. At present there is no well-defined law regulating the sale of this article."

"But are not the existing laws, in your opinion, sufficiently effective for putting down the sale of spurious ciders ?"

"Some years ago I took legal advice on the matter and was told there was no well-defined enactment or standard proving just exactly what cider is. We all know what the term implies, but what many do not know is what they are often called upon to drink under that name."

"Am I to infer that you are in favour of setting up a standard for cider ?"

"Yes. I would suggest that samples of sound cider should be drawn from Hereford, Devon, Somerset, and the other cider-producing counties in England, as well as

samples of American and other imported ciders, and an analysis of each made. Comparison of the results would soon enable the authorities to agree upon a standard up to which everything sold as cider must come. Make it an offence punishable, as I have just suggested, to sell as cider goods of lower quality than that shown as pure, according to this standard."

As the *Grocer's Monthly* appears to know little about cider it may be of interest to give the composition of some of the bogus ciders.

The directions for making are :—

Plain syrup 40° saccharometer ...	1 gallon
Citrochloric acid ... ..	2 oz.
Artificial essence of pine apple ...	½ oz.
" " Jargonelle pear ...	½ oz.
Heading "Frothine" ... ..	2 drams

Colour with cochineal, and put 1½ ozs. of syrup to each 10-oz. bottle.

Certainly the sale of this concoction as cider is bound to injure the reputation of the genuine article, as it is understood to-day, but we must tell the "Expert," quoted by the *Grocers' Monthly*, that cider does not necessarily mean the expressed and fermented juice of apples; it means *strong drink*, from the Hebrew word *shekar*; Greek, *sikera*, which, according to St. Jerome (Epist. ad Nepotianum de Vita clericum et in Isai. xxvii. 1) means *any intoxicating liquor, whether of honey, corn, apples, dates, or other fruits*. Hence the query, "What is Cider" is not an easy one to answer without a strict legal definition being first given. We would pity any judge who tried a case on the point. The "lanoline" argument would be easy compared to one on cider. The *Grocers' Monthly* does not know that a legal definition that cider is the expressed fermented juice of apples is required before a standard for strength of that juice would be of more than questionable legal value.

## Dietetic and Hygienic Notes.

### Sugar and Saccharin.

SOME years back the appearance of a substance which was named Saccharin and was made from coal tar, or similar substances, caused considerable sensation in the Sugar world. It was alleged, and we believe truly, that the new substance had 300 to 500 times the sweetening power of Sugar, and producers and distributors were, therefore, alarmed by this new competition, particularly on the Continent, where the price of sugar is so high. It turned out, however, not to be at all serious, because it was soon apparent that although Sugar is the most nutritive carbonaceous food in existence, Saccharin has no nutritive power whatever. In addition to this, the use of the alleged new Sugar substitute was alleged in some cases on the Continent to interfere with digestion, and to be otherwise objectionable. In this country no serious objection has, however, been raised against the use of Saccharin.

In the meantime the Continental Powers, which derive so large a revenue from Sugar, were naturally alarmed by the appearance of a substance so remarkably small in bulk, and, therefore, so easily concealed when it was used in the place of Sugar. It appears that Germany, Austria-Hungary, and Belgium have prohibited the use of

Saccharin except by chemists, and the French Government has introduced a Bill of a stringent character intended to have the same result. It is argued on the Continent that Saccharin is only a medicine, something in the same way as antipyrine, from which it is stated chemically to be not far removed, and that the Sugar substitute should, therefore, be kept in the cupboard of the chemist, and not be placed in the vats of the brewer, in the bottles of the lemonade manufacturer, in jam or confectionery, or in other Sugar manufactures.

It is alleged by some German and Austrian doctors that Saccharin is a distinct poison, and a recent case has transpired where a brewer who feared, because of the law, to put Saccharin in his beer, nevertheless supplied it to his customers to mix with the manufactured article. He was suitably punished under the German law. Another brewer, who was found to have a vat of Saccharin beer on his premises, was also fined. The *Sucrerie Indigène* states that, according to the opinion of various German doctors, Saccharin has absolutely no nutritious or alimentary value. The Council of Hygiene in France states that it has an unfavourable action on the digestive functions. Dr. Ernst, of Leyden, says that Saccharin can in no case supply the energetic and force-giving action of Sugar. Dr. V. Joksch, Director of the German Klinik at Prague, has stron-



objections to Saccharin. Dr. Dujardin-Beaumetz considers that Saccharin is an adulterant in foods, and Dr. Pavey, of London, says that Sugar is a food of which Saccharin cannot take the place. The Sanitary Council of Belgium expresses similar opinions to the last. The Minister of Agriculture of Belgium has just reminded the chemists of that country, who are alone allowed to deal in Saccharin, that the law punishes by fines of £40 to £60 any contravention of the law as to Saccharin. In Spain, Portugal, and Russia the import of Saccharin is forbidden.

The preamble to the proposed new French law states that in Belgium the law made in 1888 imposed a Customs duty upon Saccharin, or substances containing even  $1\frac{1}{2}$  per cent. of it, of 140 francs per kilogramme, that is somewhere about £3 per lb. In Italy, from the 15th March, 1890, the import of Saccharin had been prohibited, and the same is the case in Austria, except when imports are made by chemists for pharmaceutical use only. The same decree placed the employment of Saccharin in pastry and confectionery under the control of the Council of Hygiene. In Germany, from the 1st October, it has been forbidden to employ Saccharin or any sweet artificial substance in the manufacture of wine, beer, syrups, preserves, or glucose; it declares the use of such substances in the preparation of foods to be forbidden.

In France the public authorities have already taken some measures in this direction. The manufacture of Saccharin has not yet been regulated, but the importation of this production was forbidden by the decree of the 1st December, 1888, and this was confirmed by the Customs law of 2nd January, 1892. A circular of the Minister of Justice, dated Oct 1888, decreed that the use of Saccharin in drinks and foods constituted an adulteration. This measure was taken in consequence of an opinion of the Consultative Committee of Public Health, in the sitting of the 13th August, 1888, showing that Saccharin could not, without inconvenience, be employed as a substitute for Sugar. These conclusions were confirmed by a new opinion in April, 1891. While recognising that there is no reason to forbid the manufacture of a production which may in certain cases be of medical service, the Committee once more pronounced against the use of Saccharin in human food, and this was confirmed in 1892. In conclusion, Saccharin being recognised not to be a food, but as retarding acts of digestion and increasing dyspepsia, should only be used, according to the Council of Committee of Public Health, in medicines and in certain medical preparations. Nevertheless, a new and recent inquiry made by the authorities in France shows that, notwithstanding these measures, Saccharin or its derivatives have been used in the preparation of several productions, particularly lemonade. This matter having been considered by the Consultative Committee, who pronounced the same opinion as the Committee of Public Health on the 12th October, 1898, it resolved that it was necessary to closely superintend the manufacture of Saccharin, and to forbid the sale of that substance except for medicine, and also that action should be taken to prevent in all cases Saccharin being introduced into drinks and foods.

In consequence of these opinions the French Government has introduced the present Bill, which absolutely forbids the use of Saccharin, or of any artificial sweetening, except in medicine, and the use of Saccharin or of any other sweetening substitute possessing a sweetening power higher than that of Sugar without having its nutritive properties. Saccharin can only be made in factories under the permanent control of the Inland Revenue, which control has to be kept of the quantities manufactured, and the produce can only be sold by chemists. The chemists are liable for the quantities they receive, and they can only use Saccharin or similar substances on the production of a doctor's prescription, with the date of the order of the medicine and with his name and address, and the name of the patient and where he lives. The chemists have to keep an account of the quantities they sent out pure or mixed in prescriptions. Every three months they have to render

an account of all these details, and those not conforming to the provisions proposed will be punished by imprisonment for three months at least, and for two years at the outside, and by a fine of 500 francs at least, or a maximum fine of 10,000 francs, or by a fine or imprisonment only. Any one who knowingly exposes for sale or sells such substance, or drinks, preserves, syrups, or other food products mixed with Saccharin, etc., is liable to the same penalties and the goods themselves are liable to seizure. Every vendor who does not furnish information, or admit the selling or delivery of the substance, will be presumed to have knowledge of the illicit mixture, and will then be liable to the penalties. There are several stringent provisions in the Bill, which is also intended to apply to Algeria and the French Colonies.

In this country too little attention is paid to such matters when they effect the public health, but now the preservative of colouring matters and other substances used in food, is before a Departmental Committee of the Local Government Board, it is to be hoped that this question of Saccharin will also be considered. We do not know whether Saccharin is used in manufactories in England or not, but in judging from its use on the Continent it may be that to a small degree similar practices prevail here. Some time back Saccharin was being used in beer manufacture here, but this was stopped by the Inland Revenue. It has also, it is stated, been rather freely used in lemonade. If such acts amount to adulteration they would, however, in any case be kept in check by the fact that England is a free market for Sugar. The price of Sugar for manufacturing purposes would not be more than  $1\frac{1}{4}$ d per lb., and 300 times that would be 31s 3d; but the price of Commercial Saccharin (which it may be assumed is not absolutely pure) is something like 34s. per lb. wholesale in the solid form, and 32s. per lb. in the soluble form. There is not, therefore, much, if any, inducement to substitute Saccharin for Sugar, unless it be in certain preparations, to avoid the possibility of fermentation. Quite a number of Sugar substitutes are known abroad as Zuckerine, Sykose, Crystallose, Dulcine, Flucine, and the like. It is desirable than the Committee on preservatives should settle this matter, rather than let it be brought up, perhaps at some later date, in the Police Courts.—*Produce Markets Review.*

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#### Tea Substitutes.

In Russia the leaves of *Epilobium angustifolium* are largely used as a substitute for Chinese tea under the name of "Koporie tea," the manufacture of which gives rise to a considerable industry in certain localities. The leaves of *Epilobium hirsutum* are also employed for the same purpose. The leaves of *Vaccinium arctostaphylos* and sometimes of *A. myrtillus*, are similarly employed in the production of "Caucasus tea" or "Thé du Koutais." Both these fictitious teas and the genuine article are the subject of an exhaustive histological note by E. Collin in the *Journ. de Pharm.*, February 3rd.

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#### Cambridgeshire Instructs Traders about the New Food and Drugs Act.

THE General Purposes Committee of the Camb. County Council has resolved to request their chief inspector of weights and measures to supply traders with an abstract of the Sale of Food and Drugs Act, 1899.

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#### Clerkenwell Follows Suit.

THE Clerkenwell Vestry has issued a guide to the shopkeepers within their jurisdiction, explaining the new Food and Drugs Acts. Margarine is to be sold as such, and not as a mixture; it is to be enveloped in plainly printed wrappers; and in no case is it to be served as "butter" if butter be asked for. It is unlawful to sell margarine containing more than 10 per cent. of butter-fat, and anybody thrice offending in these regards is liable to imprisonment, without the option of a fine.



## Notes for Dairymen.

### The Farmer's Liability for Milk Adulteration.

At the annual meeting of the Cheshire Milk Producers' Association, at Crewe, Mr. H. J. Tollemache, M.P., said the association was one deserving the support of all the farmers of the county of Cheshire. The milk trade of this country was increasing in a gigantic manner, and with the large increase of population that trade would still more develop. Those engaged in this great industry ought to have every facility for carrying on a legitimate business at prices that were fairly remunerative to them, and he thought an association of this sort would prove a very powerful factor in bringing this about if the great railway and distributing companies would treat them fairly. He thought good results would follow the interview of the deputation with the Milk Dealers' Associations of Liverpool and Manchester, and the suggestion of the Liverpool Milk Dealers' Association that a farmer's liability for his milk should not be extended beyond the loading station was a valuable provision. It seemed monstrous that

farmers should be held responsible for their milk hours after it had left their possession and been hawked about a town. He thought the proposal to seal the cans would be a general benefit to the farmer. The railway companies for a long while refused to accept sealed cans, but the pressure put upon them by Mr Walter Long and various authorities had at last caused them to agree to accept cans that were sealed.

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### Milk Adulteration: a New Nostrum.

ACCORDING to Mr. A. W. Stokes, public analyst, St. Lukes, dextrin is a new nostrum for adding to milk to conceal the addition of water. It appears to be claimed that 20 per cent. of water can be added to a volume of milk without fear of detection, conditionally upon the simultaneous addition of four ounces of dextrin. Where milk is so thin that water is suspected, and where the lactometer fails to indicate its presence, there is probably no better simple test than that of starch.

## Cold Storage Notes.

### Grocers and Cold Stores.—Unnecessary Conservatism.

THE *Birmingham Daily Argus* says:—Grocers, to judge by the remarks made at the conference in Birmingham, do not believe in cold storage. They denounced the opinion expressed by some medical men that cold storage was effectual as a food preservative as being absurd. Other trades have tried the process and found it to be entirely satisfactory, and, that being so, it is difficult to see why it should not prove efficacious in the case of provisions the grocers require to preserve. One reason given for their attitude to this process is that they are too conservative to give the new process a trial, and another is that they do not believe in it because were they to make general use of cold storage a regular supply would be kept upon the market, and prices would not fluctuate as they are in the habit of doing at present. But, said one party interviewed upon the subject, the time will come when the grocers will have to learn the advantages to be derived from the cold stores. For the preservation of eggs, butter, and bacon, the stores are admirably adapted. A large quantity of eggs at present come from Canada, and in order to preserve them they are coated with glycerine. That seals up the pores in the egg shells. These eggs will keep for a short time, but not nearly as long as will eggs put in the cold stores. There they can be kept perfectly sound for as long as seven months, while under any other conditions they would be, in the words of a well-known comedian, in a condition to talk for themselves. Butter can be kept for any length of time, and that in excellent condition. Up till lately the preservation of bacon was a rather difficult matter, but now that has been overcome, and at a recent date in the Liverpool cold stores there was as much as 3,000 tons of bacon stored. Not only was that bacon in the best of condition, but what is a great matter to the grocers is that it did not lose from 10-lbs. to 15-lbs. in weight per box, as it does in the warehouses. It will be interesting to the grocers to learn that the saving of that alone will pay for more than the cost of storage, and the goods will also be in better condition."

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HON. JOHN DRYDEN, Canadian Minister of Agriculture, is collecting information regarding cold storage stations, and at the next session of the Legislature he will probably bring in some important legislation in connection with the establishment of cold storage and collecting stations in various parts of the Province.

### Grocers' Cold Storage and Frozen Meat.

OUR contemporary, *The Grocer*, asks for practical opinions from its readers as to the advisability of grocers selling frozen meat. It says:—"Starting in 1880 with an importation of 400 carcasses, the trade has grown until last year we imported a total of 6,869,419 carcasses of sheep and lambs from New Zealand, Australia and the Argentine Republic. This increase has been fairly steady, and may be continued to very large figures indeed. 'The trade,' is easily conducted by the retail grocer, and the profits are good. The expert trade knowledge required is so trifling that any intelligent business man can acquire all that is necessary in a few days, and any able-bodied youth of eighteen years or over can master the technicalities of cutting up the carcasses; there is no dirt, and little or no waste. The large London providers have already proved their perspicacity by embarking in this trade with marked success, and such firms as the Army and Navy Stores, Civil Service Stores, Harrods, John Rose & Co., and Whiteley's, etc., are all doing a large and increasing business, especially in New Zealand Canterbury mutton and lambs. In the provinces the instances of retail grocers taking up frozen meat are very few, and many a grocer with the space to spare might do worse than to give the matter thought and consideration."

It would be a good thing in many ways for the retail grocer to join in the distribution of frozen meat, because its sale would incidentally lead to much saving in other departments by showing the value of cold storage. The grocers who have refrigeration chambers on a small scale, save loss of money, and keep many articles in a better and more satisfying condition for their customers during summer months. Again, whatever be the result of the finding of the committee on preservatives in food, the use of drugs is sure to be unpopular amongst the public. The grocer who has cold storage can supply his butter, bacon, etc., without preservatives, and with the lowest percentage of salt. From the trade reputation point of view the outcome of the Birmingham Federation's discussion on preservatives is bad policy. There is no real reason for the grocer to ally himself with surreptitious drugging of food as it brings disrepute upon the trade. It would be far better if the associations bestirred themselves to secure municipal cold storage in the towns they represent.



# Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 57.)

## MR. H. DROOP RICHMOND'S EVIDENCE.

Mr. Richmond, chemist to the Aylesbury Dairy Company, on January 22nd, said that his company used no preservative whatever in the produce they dealt with. In addition to boracic acid, formalin, and salicylic acid, he had also found a solution of lime and cane sugar added to cream. That would retard the time when evidence would be apparent to the consumer that the cream had turned. Formerly his company added 0·2 per cent. of boracic acid to cream, but they gave it up because the public objected to it. They then experimented and found that they could supply fresh cream without any preservative. Some years ago they used boracic acid in butter, but they did not use it now. They used to introduce the boracic acid in two ways: the first was by washing the butter directly after churning with a solution of boracic acid, and the second way was to introduce it when working the butter. When they washed the butter with the solution some boracic acid was retained by the butter. They used to put  $\frac{1}{2}$  per cent. of boracic acid in their butter. It was done away with some years ago, because they found that there was a prejudice against it. He did not know that they had received any direct complaints from their customers, but they thought it politic to do away with any preservative. They had found no difficulty in carrying on their trade since. The French butters that they sold were habitually preserved, the average quantity being about 0·366 per cent.

In your judgment is boracic acid required in such butters? I think in the case of butters which are collected under the French system, and which are imported to England, and have to pass through the hands of two or three different people, perhaps there might be some trouble in keeping them the necessary length of time without something being added. I do not think that boracic acid is absolutely necessary.

Not even in these butters? No; a percentage of salt might be substituted for that with equally good results.

Continuing, witness said that Danish butter contained no preservatives. Up to last year he had invariably found that butter arriving from Australia was preserved, but last year he had one or two samples which were free from preservatives. They were good saleable butters, and he did not believe there was any difficulty in selling them. There had been a tendency of late to reduce the amount of the preservative in Australian butters, and he should say that there was no need to use a preservative at all. There was some connection between the keeping quality of butter and the amount of water, but not a very great connection. If the water was extremely high the butter had a tendency to keep less well than if it had the average amount.

In other words, dry butters keep better than those which contain an undue quantity of water?—They keep a little better.

By Dr. Bulstrode: The two samples of Australian butters which he found to be free from preservatives were from twenty samples examined by him.

The Chairman: Were they free from salt?

Witness: No; they contained salt.

By Dr. Bulstrode: He did not estimate the quantity of salt that the two samples contained, but from the taste of the butter he should say they contained between 1 and 2 per cent.—the usual amount.

By the Chairman: He did not think it would be possible to fix limits as to the amount of preservatives which might be used—it must be all or nothing. The only colouring matter employed by his company was annatto. Other colouring matters were taking the place of annatto in the trade, principally aniline colours, the proportion of which, however, was very minute.

## MR. HATTERSLEY'S EVIDENCE.

Mr. Hattersley, managing director to the Aylesbury Dairy Company, described the company's methods with regard to the distribution of milk. Clotted cream, he said, was not treated with preservatives, but they made it at Bayswater. He saw no difficulty in bringing up clotted cream from Devonshire without preservative.

It has been represented to us that the French butter is perfectly fresh without any salt, and is of a higher quality than Danish butter, which contains about 1 per cent. of salt. Is it your opinion that the use of preservatives is necessary to the French butter trade?—I only know about French butter from

hearsay. I do not know how the trade is done in France. I understand it is made by small farmers and collected at different collecting stations. It is then sorted out into different qualities in the factory, and by this time it is several days old. They must, I suppose, put something in to keep it.

You would not undertake from your knowledge of the dairy business to collect butter from Normandy and supply it fresh to London without any preservative at all?—Or without salt, they would not get so high a price for it.

You would say it would not be possible?—I should say not from what I have heard of the system of collecting French butter.

Continuing, witness said that the reason they used colouring matters was that he was afraid they would lose a great deal of their trade if they did not do so. He had tried several times to do away with colouring matter, but their customers objected. The object of using the annatto was to give a uniform colouring to the butter. His company did not deal in margarine at all.

Are you aware that margarine is extensively coloured to resemble butter?—Well, I have read so; but I do not know anything about the margarine trade.

Well, if it is true, have you any opinion to offer as to the merits of such a practice; do you, as a manufacturer of dairy substances, think that margarine ought to be coloured to resemble butter?—Well, it is not exactly coloured to resemble butter. I suppose if the law were against the colouring of the butter they would not colour margarine.

But margarine, naturally, is white as paper?—And butter in the winter-time is nearly white.

I think we may assume that the intention of colouring margarine is to make it resemble butter!—There is no doubt of it.

Have you any opinion upon that practice—is it an honest one?—No, I do not think it is; but we have not found it interfere with our trade.

By Dr. Bulstrode: He should say the demand for absolutely fresh butter was increasing. Between 1898 and 1899 their sales of absolutely fresh butter doubled, while their sales of salt butter decreased.

Professor Thorpe: Is not the cream trade getting more and more into the hands of grocers?—Yes.

I suppose it is the use of preservatives which has led grocers to take up this trade?—Entirely. I believe until the potted cream trade arose, grocers did not sell cream at all.

## DR. DUPRE'S EVIDENCE.

Dr. Dupré, F.R.S., gave the results of his experiments on preservatives in milk. He objected principally to preservatives because he believed they were used to cover uncleanness. He did not object so much to adding preservatives to such foods as butter, because they were not the sole foods of invalids or of children. He would prohibit the use of colouring matters which were poisonous. He saw no advantage in adding copper to peas, and he would prohibit its use entirely.

Dr. Tunnicliffe: Do you think it probable that the amount of copper in use at present for preserving peas is actually injurious?—I cannot say from personal experience.

I may tell you that one grain per pound, of which 40 per cent. alone is rendered soluble, is the general amount used?—Yes, I believe that is the quantity, but I cannot offer any opinion as to whether it is injurious.

That is to say, half a grain of copper, supposing you eat a pound of peas?—If I saw good from it, I think such a small quantity might be allowed. But I do not see any necessity for any colouring at all.

Professor Thorpe: The object of adding copper to peas is to make them a good colour?—Yes.

To make a stale pea look like a fresh one?—Yes.

Is that not rather in the nature of a fraud on the purchaser of the peas?—It is scarcely a fraud because everybody knows it. I believe the real reason is because persons do not like a preserved article on the table. Like the poor people—they do not like to buy margarine.



You do not think that a declaration on the tin or the paper "that these peas are coloured with copper" would be a safe precaution?—It would go a very great way, I think, as a preservative. Further replying to Professor Thorpe, witness said that where large quantities of oxide of iron were used with cocoa it was a distinct fraud, because the cocoa was described as a mixture, but people would not buy the mixture if they knew the percentage of cocoa was very small. There was also fraud in the colouring of mustard.

#### MR. JOHN M. HARRIS'S EVIDENCE.

Mr. J. M. Harris, examined by Sir H. Maxwell, said he was managing director of C. and T. Harris and Co. (Limited), bacon curers, Calne.

You deal in Wiltshire bacon?—Entirely. We do not deal in anything but our own cure.

Can you describe the process of curing. What substances are used. Do you use any of the modern preservatives?—No, nothing at all in the shape of borax or any other chemical; we never have used anything but salt and saltpetre.

Do you export?—Yes.

How do you pack your bacon?—In salt, wrapped in canvas after drying.

We have been told that boracic acid compounds are very useful for packing bacon after it has been mildly cured?—The bacon we send abroad we add a little more salt to and extra dry it. It is then sewn in canvas and packed up in dry salt in cases. That is for hot climates like India and the Cape.

Why do you prefer dry salt to borax?—We have never found occasion to use borax.

Do you know anything of the process of curing and packing in America?—I believe American bacon is cured in the same way that we cure it, and that is with salt and saltpetre, and after it is cured mildly, so that it may stand the voyage here, it is then sprinkled with borax, and it is placed into boxes to come to Europe, and when it gets here it is washed out.

Have you ever tested or submitted any of that bacon to analysis?—Yes, for our own information some short time ago. We had a side of our own bacon, which we had cured in the ordinary way. We sprinkled borax on it and left it for eight days in our own cellar. Then we washed it thoroughly, and put it in one of the drying-houses, and after it was dried, we cut the gammon part off and sent it to the Secretary of the Bacon Curers' Association, with a request that he would send it to a competent analyst, which he did. Another firm of Wiltshire bacon curers, Messrs. Oake, Woods and Co., Gillingham, did the same thing, and also sent their gammon to the Secretary of the Bacon Curers' Association—Mr. Stewart. At the same time Mr. Stewart bought a gammon from Spiers and Pond, in Queen Victoria Street, of Davies' pea-fed Canadian bacon—which is one of the best-known brands of Canadian bacon. That bacon was also sent to the analyst, Mr. Harland. Mr. Harland described to me how he carried out his analysis. He cut out a piece of bacon from the flesh side of the gammon and also from the skin side about an inch or an inch and a half square right down to the bone. That was analysed, and the results were as follows: The gammon cured by ourselves showed boracic acid to the extent of 0.13 per cent., which, I believe, is equivalent to 14.1 grains of borax to the pound of meat. Oake, Woods and Co.'s bacon showed boracic acid present to the extent of 0.10 per cent., equivalent to 10.5 grains of boracic acid per pound of meat. Davies' pea-fed gammon showed 0.12 per cent. present, equivalent to 12.6 grains of borax to the pound of meat. These were all treated in exactly the same way.

These bacons had not been cured with borax?—No, certainly not.

They had been mild cured and then packed in borax?—Yes.

And your opinion is that the borax penetrated the meat?—Undoubtedly, and that I think is confirmed by the evidence which you have had given to you here before. For instance, Dr. Hill, of Birmingham, said that he had found it varying in quantity from 10 to 45 grains per pound of meat.

Did Mr. Harland make any further experiments?—Yes; for his own information he sprinkled some borax on a fresh piece of pork in his office, and after a week the pork showed borax present to the extent of 0.10 per cent. equal to 10.5 grains of borax to the pound. That, I think, goes against the contention that borax does not penetrate the meat when sprinkled on the surface. It was suggested to me that I should have the number of grains which these bacons contained weighed out. I have had that done and I have brought them for the inspection of the Committee. Witness said he was very much struck with the quantity which was present. He must say that hardly anyone connected with the trade credited the statement that the process of washing American bacon did away with the borax. Those engaged in the trade knew that it did not.

You regard these tests as conclusive that it does not? Undoubtedly. Mr. Harland has had a good deal of experience in analysing meats and bacon, and I certainly think these results are very conclusive.

Was Davies's gammon dried before it was treated?—Yes; the three were thoroughly dried. Mr. Harland was very careful not to take the surface of the meat where the borax was put on, but he took right from the centre of the meat, down near the bone.

It has been represented to us that any interference with the presence of preservatives would cause very serious disturbance to the import trade. Would it interfere with the home curing trade at all?—I think there are no English or Irish curers, or with very few exceptions, who use borax in curing.

Why do you object to the use of borax?—Personally, I do not. I have no reason to object to it; I do not know sufficient about it to object.

There is one point that witnesses have brought before you, they say they can produce a mild-cured bacon by using borax. I think Mr. Wheeler Bennett in his evidence stated that English bacon is not popular owing to its being cured harsher, and said that he sold 3000 to 4000 sides of Canadian bacon to 100 sides of English. Mr. Wheeler Bennett never sold any English bacon. He is not an English bacon commission agent. We kill three times the number of pigs we did in 1866, and in the last few years there have been from a dozen to twenty new curing companies started in Ireland, and there are more pigs now fed and bred in the West of England for bacon purposes than there ever were. It would have been fairer if Mr. Wheeler Bennett had stated that the cheapness of American and Canadian bacon was a great inducement to its sale.

They under-sell you, I suppose?—At the present time there is a difference of at least 1½d. per lb. wholesale between our price and that of Canadian bacon.

A good deal more is shown in this list from the Army and Navy Stores?—That of course is retail. At present our price is 62s. per cwt., and Davies's pea-fed is 48s., showing a difference of 14s. per cwt.—about 1½d. per lb.

In short, you find it quite possible to meet the increased demand for mild-cured goods without the use of modern preservatives?—Emphatically yes. Mr. Bennett says there is nothing better known than a slight sprinkling of borax to secure a very mild article. If he had said there was nothing better known to protect the American bacon while it was lying about the wharves, etc., and in its transit over, I think he would have been more fair to English and Irish bacon curers. A great many people think that borax forms part of the cure. It does nothing of the sort. Bacon by all leading houses is cured entirely without the help of borax, and those who use borax make a very inferior article.

We have been informed that it is possible for borax to get mixed with the brine?—I believe some few, but a very few, houses do that, but it is absolutely unnecessary. We have cured bacon from eighty to one hundred years without it. Since this Committee has been sitting, we have received applications from some of our customers for guarantees that our bacon is pure or not adulterated, and we have had a foot note appended to our invoices guaranteeing that our produce is free from borax.

Professor Thorpe: You are exporters of bacon?—Curers entirely; we supply the trade. The wholesale houses in London ask us to pack so many boxes of bacon to go abroad.

The great proportion of your bacon goes abroad?—No; by far the largest part is consumed in England.

Is that which goes abroad differently treated?—It is a little more salt and is dried at a higher temperature.

Where does the bacon sent abroad go to?—To Bombay, Calcutta—every fortnight a steamer takes a quantity to Calcutta, —Madras, Kurrahee, Cape Town, Johannesburg and other places.

*(To be continued next week.)*

## Weighing Paper with Tea, Sugar, etc.

### A Test Case to be Taken to the High Court.

THE General Purposes Committee of the Grocers' Federation have considered in private the question of defending the custom of weighing paper with goods sold. It has been resolved that the matter is one of considerable importance, and that it be referred to the Parliamentary Committee with power to act upon the reception of a case from a federated association which, in the opinion of the Parliamentary Committee, would be such a case as to serve as a test case.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**UN SOUND FOOD—PRISON FOR ONE OFFENDER.**—At Marlborough Street Police Court, on January 31, Joseph Stoppani, a foreign provision dealer, of 3, Peter Street, Broad Street, Golden Square, W., was summoned by Mr. Thomas Calverley, sanitary inspector to the St. James's, Westminster, Vestry, for having in his possession for sale for human consumption, a large quantity of tinned fruits, vegetables, and other articles which were unsound and unfit for human food. Mr. Arthur Gill, barrister, prosecuted, and Mr. Ricketts, solicitor, appeared for the defence. Mr. Gill said that the defendant supplied restaurants in Soho and the neighbourhood. There were two summonses against him, one respecting a quantity of bad food seized at St. Peter Street, and the other relating to a large amount in a similar state seized in a house in Broad Street, Golden Square. On December 16th last the defendant appeared to have gone to Messrs. Thurber and Co., Eastcheap, and purchased some of the stuff seized, which was, however, distinctly sold to Stoppani as unfit for human consumption. As a fact, the stuff was waste, having been thrown away to be removed for the purpose of being converted into pigs' food or manure. The tins which were "blown" contained tomatoes, peas, asparagus, artichokes, peas, peaches, pineapples, condensed milk, and sardines. Over 1,000 tins of rubbish were found at the defendants' two premises, but only a small number were purchased from the first mentioned. At the Peter Street place, a shop, several tins were seen to have been pricked, the object being to let out the gas and reduce the tins to as near their ordinary size as possible, and they had been resoldered quite recently. The quantity of stuff bought at Messrs. Thurber's, if good, would be worth about £20 or £30, but if Stoppani paid £1 for it, the invoice stating that it was sold as defective, and not fit for human food. Stoppani also had in his Broad Street premises a piece of bacon weighing about 3 cwt., which was putrid and covered with maggots. Mr. John Pollard, one of the sanitary inspectors, paid a visit to the defendant's Broad Street cellar in December, and found 650 tins of food, all "blown" or broken, and the contents in a putrid condition, together with the piece of bacon spoken of. A visit was then paid to Peter Street, where over 400 more tins of stuff were seized. Afterwards all the goods were examined by Dr. James Edmunds, Medical Officer of Health to the district, and Mr. Calverley, and a Magistrate's order obtained for their condemnation. Counsel's statement was borne out in detail. Dr. Edmunds said the articles were absolutely unfit for food, and there would be very great danger in eating any of them. Mr. George Howard, manager to Messrs. Thurbers, stated that the stuff sold to Stoppani had been thrown on the rubbish heap, to be removed by the sewer carts or a firm who took away such things for manure. Mr. Denman: You treat them as absolute waste? Witness: Yes, sir. Mr. Ricketts said it was useless to defend the case in face of the evidence, but urged in mitigation of the penalty, that the defendant he thought could find some good food among the quantity he had purchased. Mr. Gill replied that the defendant had had a distinct warning given him by Mr. Calverley in November, as he then had some unwholesome cheese in his possession. Mr. Denman, in giving his decision, said that he had had some cases to decide under this Act that made one shudder, but never such a bad case as this. He felt sure, from the evidence, that the defendant's idea was to make this stuff up and sell it in the ordinary way of business as good. He remembered once, in the City of Copenhagen, talking to a man who said he had been a waiter in every capital in Europe, but that there was not one place in which such cheap living could be obtained as in the neighbourhood of Leicester Square. He did not then know how it could be done, but now it was perfectly clear. It was a shocking thing that people should indulge in such a trade, selling as food what was meant for manure, and was really worse than poison. He could not imagine a worse case. He had never before resorted to the power he had in cases of this kind, of sending to prison without the option of a fine; but no one could say that imprisonment was not fully deserved in this case. Stoppani would have to go to prison for three months with hard labour.

**£100 FINE FOR BAD MEAT.**—At the Guildhall, George Hancorne, farmer, of Tilehouse Farm, Elstree, Herts, was summoned for being the owner of four quarters of beef and various portions of cow that were deposited in the Central Meat Market for sale, the same being diseased and unfit for food. Mr. T. G. Vickery prosecuted. Dr. W. Sedgwick Saunders, medical officer for the City, who saw the meat after it was seized, said it was in a very bad condition, the ribs being studded with tubercles. The worst feature was the liver, which was covered with white

tumours. The defendant went into the box, and declared that he did not know the meat was bad. Sir Horatio Davies: This is a very serious matter, and you ought to be sent to prison. People like you send up bad meat to London, not caring what injury it inflicts. I shall fine you £100 and costs, or, in default, two months' imprisonment. I will give you 14 days to find the money. The defendant: I had no idea you would have been so harsh. Sir Horatio Davies: I have not been harsh; I could have fined you £600.

**BUTTER AND MARGARINE PROSECUTIONS.**—An important prosecution was heard at the Oldham Police Court, on February 1st, Mr. John Samuel Bradshaw (Secretary to the Oldham Grocers' Association) summoning Patrick S. Simmons for two breaches of the Margarine Act, 1887. Mr. Sixsmith represented prosecutor. The case was brought up about a month ago, but it was then adjourned owing to the fact that the defendant was nowhere to be found, and the shop had been closed. Mr. Sixsmith then pressed for a conviction, alleging that the defendant, trading under the name of Molloy, had been convicted before for a similar offence, but the Bench ruled against this on the advice of the clerk. This morning the magistrates' clerk opposed the application, saying that if the man Simmons was convicted, he might be a fictitious person, and no good could be done that way, as the law could not be enforced. Mr. Sixsmith said that at the beginning of last year a man, who gave the name of Patrick S. Simmons, took 145, Manchester Street, Oldham, on rent from a landlord, named Davies. He traded under the title of "Irish Butter Market." On December 4th, the wife of the prosecutor bought some butter which, when analysed, was found to contain 13 per cent. of foreign fat. When the summons was served the shop was immediately closed, and the defendant, whatever might be his real name, was not to be found anywhere. The landlord would give evidence as to the taking of the premises by the defendant Simmons, who had been married under the name of Molloy, and when spoken to about it replied, "What's in a name?" A carter would speak to delivering goods at Manchester Street, to P. S. Molloy, and in Huddersfield Road, to T. Molloy, who were either the same man or brothers. The Clerk: If you know Simmons to be Molloy, then take out a summons against Molloy. Mr. Sixsmith: No; I am going against Simmons. The Clerk: Do you think you will get any Chief Constable in the world to enforce the warrant? He would be very ill-advised if he did so. Mr. Sixsmith: I don't think it's for you to say, and I don't care a rap whether he does or not. The evidence was then called, which was as Mr. Sixsmith stated. A rate collector spoke as to collecting money from P. S. Simmons. The Bench, after a moment's consideration, fined Simmons £10 and costs in each of the two cases, and allowed Mr. Sixsmith a fee of £2 2s.

At Hamilton, on January 30th, William Smith, grocer, Almada Street, was convicted of having sold butter containing 76.87 per cent. of foreign fat. He was fined £2, with 3s. of expenses.—William John O'Neill, grocer, Duke Street, for selling butter containing 74.75 per cent. of foreign fat was fined 40s., and 3s. costs.

At Manchester, on January 24th, Robert Evans, 46, Alexander Road, Moss Side, was summoned by Mr. Rook, superintendent, who said there were three summonses against him,—one for exposing margarine for sale in bulk in the shop without having it labelled so as to be seen by customers, another for exposing margarine for sale without its being labelled, and the third for selling it in an unmarked wrapper. Inspector Houlston said that he visited one of the defendant's shops at 458, Ashton Old Road, Openshaw, and saw the manager, Samuel Jones. He asked for 1 lb. of butter, pointing to a butter substance on a dish covered with a cloth, over which was suspended a ticket with the words, "Robert Evans, 8d." Jones told him it was margarine, and on lifting the cloth witness saw a label marked "margarine" in yellow letters. The margarine was served in a stamped wrapper. Witness then pointed to another dish on the counter, ticketed "Robert Evans, 10d.," and asked for 1 lb. of "that butter." He was served in an unmarked wrapper. On being analysed by Mr. Estcourt, the city analyst, the first sample was found to be margarine flavoured with butter fat, and the second sample contained 82 per cent. of foreign fat. The defendant said his assistants had strict instructions to label and sell margarine in a proper and legal way. With regard to the first offence he understood Jones had been decorating the shop for Christmas, had placed the cloth over the margarine to protect it from dust and had neglected to remove it. As to the second case, he said his manager had been supplied with margarine tickets and must have neglected to use them. As the magistrates no doubt were aware, grocers were to a great extent in the hands of their servants so far as the carrying out of the law was concerned. For the first offence the defendant was fined £5 and costs, and 10s. and costs on each of the other two summonses.



In Glasgow Court House, on January 31st, Sheriff Boyd disposed of several prosecutions under the Foods and Drugs Acts. Alexander Massey and Son admitted having, on the 16th of December, in their shop at 23, Morrison Street, Govan, sold 1 lb. of butter which contained 76 per cent. of foreign fat. An agent for the respondents stated that when there were a number of people in the shop a man dressed in navvy's clothes came in and asked for a 1 lb. of shilling butter. In mistake the employée supplied him with an article which turned out to be margarine, and on the same night he was dismissed. The firm had been in business for 27 years, and, although hundreds of samples must have been taken from their shops, this was their first offence. They had inspectors of their own, who visited the shops to see that they were properly conducted and to warn the employées against selling margarine for butter. Customers generally asked for butter when they wanted margarine. Sheriff Boyd imposed a fine of £5, and ordered respondents also to pay £2 1s. (d. expenses).—Charles Keenan was fined £2, with £2 1s. 6d. of expenses, for having exposed for sale in his dairy at 11, Victoria Street, Govan, a quantity of margarine without the necessary label attached to it. It was stated that the shop belonged to respondent's wife, and that when she was spoken to about the want of a label she lifted one from behind the butter, and said it had fallen off.—For a similar offence, in his shop at 8, Ibrox Place, Govan, on 15th December, John Love, provision merchant, was fined £3, with £2 1s. 6d. of expenses. In this case an agent stated that the shelves were being cleaned on the day in question, and the label had been removed. A man, whom respondent knew to be an inspector, came into the shop in the absence of the employée, and asked for 1 lb. of butter. Respondent was giving him butter, but he pointed to the margarine, and said he would take some of it.

At Bolton on February 3rd, George South, Newport Street, was charged with having sold butter adulterated by the mixture of 92 per cent. of foreign fats. Mr. Field, Deputy Town Clerk, prosecuted, and stated that the Inspector sent a boy into the defendant's shop for half a pound of best butter, and the lad was served and paid 5d. for the article. When the lad was leaving South (who was manager of the shop) followed him, and attempted to take the butter from him, with the result that it fell to the ground. Detective Burrow, who was close at hand, picked it up and handed it to Inspector Spencer, who had it analysed, when it was found to contain 92 per cent. of fat foreign to butter. In the box the inspector said in cross-examination that he had had margarine examined which was found to contain as much as 50 per cent. of butter. In defence Mr. Fielding said the proprietor of the shop was in liquidation, and the business was in the hands of a trustee, who had no interest in inferior articles being sold in the shop. The offence in this case was due to a mistake, the defendant having had butter in the shop, but inadvertently served the lad from the wrong dish. He immediately afterwards discovered the error, however, and in order to rectify it followed the lad and was taking the butter back when the detective collared him by the neck. A fine of £5 and costs was imposed. There was a further charge against the defendant of having attempted to steal the butter, but the ex-Mayor (Alderman Nicholson) asked Mr. Field if he thought it desirable to proceed further against the defendant. The incident appeared to have taken place in the excitement of the moment. A conviction had been already obtained, and it seemed to him the case was met by the penalty already imposed. Defendant was merely a servant. Mr. Fielding intimated that if the case was further proceeded with he should go to the Quarter Sessions. Mr. Field said that after the intimation from the Bench he would withdraw the case subject to the payment of the costs. Mr. Fielding objecting to paying the costs, and acting upon a further suggestion from the Bench Mr. Field agreed to withdraw the case unreservedly.—John Farrall, shop assistant, 84, Higher Bridge Street, Bolton, who did not appear, was prosecuted by Inspector Spencer, on February 3rd, for selling butter containing 91 per cent. of foreign fats. A boy engaged by the inspector purchased 1-lb. of the "best butter" for 10d., and it was found adulterated as described. Mr. Field said this was a most notorious shop, there having been six convictions during the last two years and heavy penalties imposed. He asked for a heavy fine in this instance, and the Bench imposed a penalty of £10 and costs with the option of a month.—Jas. McGrath, shop assistant, 97, Derby Street, was also summoned for selling margarine as butter, the inspector in this case purchasing the article under circumstances similar to those in the last case. Mr. Field said defendant was fined £10 and costs in November last, but it seemed to have no effect. The owner of the business had been fined as much as £20. The magistrates imposed a fine £20 and costs or two months.

**MILK PROSECUTIONS.**—At Bow Street Police Court, on January 31st, the Callow Park Dairy Company were summoned for selling milk from which 8 per cent. of fat had been extracted. Mr. H. C. Jones supported the summons, and Mr. Steele appeared for the defendants. The case had been adjourned at the request of the defendants in order that the sample handed to them at the time the milk was purchased might be analysed at Somerset House. The result of that analysis was now put in, showing that about 6 per cent. had been abstracted. Mr. Steele said he could not dispute the analyst's certificate, although he was surprised at it. The defendants bought the milk from a certain firm, and sold it in the condition in which

they received it, taking every precaution to prevent it being tampered with. The defendants were fined £5 and £3 3s. costs.

At the Thames Police Court, on January 31st, Alfred Grant, of 130, Rhodeswell Road, Limehouse, appeared to answer a summons for selling milk adulterated with 32 per cent. of water. Mr. Young who prosecuted on behalf of the Limehouse Board of Works, stated on December 15th, a sample of milk was purchased at the defendant's shop. The milk, on being analysed, was found to be adulterated as stated above. Mr. Mead ordered defendant to pay a fine of 20s.

**A POINT FOR DEALERS.**—A case of considerable interest to farmers and milk dealers arising out of the Food and Drugs Amendment Act of last Session was heard at Bolton on February 3rd, the defendant being Maria Kilcoyne, Ashburner Street, who was charged with selling milk adulterated by the abstraction of 20 per cent. of its fat. Mr. Field, Deputy Town Clerk, said that the Inspector purchased for 1½d. a pint of new milk which was found adulterated to the extent of 20 per cent. Defendant was represented by her son, who said that the farmer from whom the milk was bought gave them a written guarantee that it was pure. The Magistrates' Clerk (Colonel Winder) asked him if he had made himself acquainted with the provisions of the new Act of Parliament, and he replied that he had not. Mr. Field said the Sanitary Department had circulated printed information as to the Act, but it transpired that defendant had not received a copy. The ex-Mayor said the statute was a very stringent one, and it was important that persons who came within the scope of it should make themselves thoroughly acquainted with it. The Magistrates' Clerk said that in order to avail himself of the defence in regard to the farmer's guarantee a copy of it must be tendered within seven days from the receipt of the summons. Defendant said he was not aware of that. Mr. Field: I think the defendant would have a remedy against the farmer. Defendant: My mother told the Inspector we had a guarantee. Mr. Field: I do not wish to take any unfair advantage against him; I would sooner get at the farmer. But there has been a previous conviction against the woman. Defendant: We have had a different farmer since then. The ex-Mayor said that to say the least it was a bad sample of milk. As milk formed so large a portion of the food of children it was important that it should be pure, and the law said it must be. Under the circumstances in this case, however, they would merely fine the defendant 5s. and costs.

This case illustrates once more what we have so frequently proved—that dairymen are far too careless about the law, and that officials, as Mr. Field here shows, are only anxious to get at the farmers if they are the real offenders, but this is just where the dairymen rarely give the authorities any help.

**COFFEE PROSECUTION.**—At Kensington, on January 30th George Montague Osborne, grocer, 67, Church Street, Kensington, W., was summoned for selling coffee containing 25 per cent. of chicory. Defendant stated that the offence arose through gross carelessness on the part of one of his assistants. A fine of 20s. was imposed.

**GOLDEN SYRUP PROSECUTION.**—A RETAILER SUES A WHOLESALE DEALER.—At Bedford County Court, on January 19th, Mr. A. D. Row, grocer, of Thurlough, sued Mr. W. A. Stevens for £15, in respect of a prosecution instituted against plaintiff for selling glucose for golden syrup. Mr. Langley, for the plaintiff, said this was a test case, and the facts were that plaintiff was fined £5 for selling golden syrup adulterated with glucose. This was supplied to plaintiff by defendant, and the magistrates imposed a fine of £5 in order to oblige him to recover it from the wholesale dealers. The £10 was claimed as damages in respect of plaintiff's character and custom. The judge refused to entertain the latter proposal and allowed £1 for loss of time and expense. Judgment was given for plaintiff for £6 and costs, to be paid into court and retained pending a counterclaim.

#### AN APPEAL TO BE MADE.

Thomas Garratt, grocer, Liverpool, was charged on Jan. 31st, with having sold golden syrup adulterated with 70 per cent. glucose. He denied any fraud, as there was a label attached to the tin stating that it was a mixture, and he sold the syrup in exactly the same condition as he purchased it. Mr. Stewart, stipendiary, imposed a fine of £5 and costs. It has been decided to appeal against the decision. This will be an interesting appeal, turning as it probably will upon the question whether "golden" means syrup from the sugar cane or merely the colour of the article sold. We have always doubted if any of these convictions would stand (save where pure cane syrup is guaranteed) on appeal to the Queen's Bench. Inspectors would, perhaps, be well advised to leave prosecutions for "golden syrup" alone pending this appeal, as it will probably be strenuously fought by the Grocers' Federation.

**SWEET SPIRITS OF NITRE PROSECUTION.**—At the West Riding Court, on January 25th, Thomas A. Kershaw, manager of No 2 branch of the Clayton Co-operative Society, was summoned for selling adulterated sweet spirits of nitre. The adulteration was proved by Inspector Druce, and in answer to the Bench, defendant said the nitre was obtained two years ago, and he supposed it had deteriorated by the constant removal of the cork. Fined 5s. and costs.



**CAMPHORATED OIL: PROSECUTION FAILS ON A FAULTY CERTIFICATE.**—George F. Thorne, grocer, Fair Oak Avenue, Maindee, Newport, having branches at Caerleon and Cwmbran, was summoned at Cwmbran for selling camphorated oil in contravention of Section 6 of the Food and Drugs Act. Mr. H. Stafford Gustard appeared to prosecute, and Mr. H. G. Lloyd defended. A bottle of camphorated oil was purchased at defendant's Caerleon shop for 5½d. Upon analysis the sample was found to be deficient in camphor to the extent of 50 per cent. Mr. Lloyd contended that the county analyst's certificate was bad on the ground that it did not specify the ingredients, and consequently the bench could not form an opinion upon it. In support of his argument he quoted the case of *Fortune v. Hanson*, Queen's Bench Division, and handed to the justices a letter from the makers of the oil, stating that they did not send out any article unless it was absolutely pure. The Magistrates' Clerk: That may be a moral justification, but I do not think it comes within the meaning of the Act. The Clerk, having again read the analyst's certificate, observed that the analyst did not certify that he was analysing camphorated oil. He only stated that he had analysed oil from a bottle marked "camphorated oil." The court decided to look up the law on the point, and at a subsequent sitting they delivered judgment. They stated they came to the conclusion that the summons must be dismissed, and under the circumstances they ordered the prosecution (who were the County Council) to pay the court costs and two guineas towards the solicitor's fees. The bench added that they were prepared to state a case for the High Court, in the event of the Council appealing against the decision. While they did not wish to do anything to discourage these prosecutions, proceedings must be taken in the proper form.

**MILK OF SULPHUR PROSECUTION.**—At the West Riding Court, on January 25th, George Frith, grocer, Clayton Heights, was summoned for selling adulterated milk of sulphur. The case having been proved, defendant said he should in future insist on a written guarantee from those he purchased the goods from. The chairman (Dr. Ellis) said shopkeepers ought to be more careful in buying these things. Defendant was also fined 5s. and costs.

**PRESERVATIVES IN PEAS.**—At the Sunbury Sessions, Messrs. Holland and Barrett, grocers, of High Street, Feltham, Middlesex, were each fined £3, 7s. 6d., including costs, for retailing preserved green peas which had been coloured with copper in such a quantity as to render them injurious to health. The county analyst for Middlesex deposed to analysing the tins of green peas purchased from the above business houses. He considered that the percentage of copper in the samples was dangerous to health. Dr. C. Dwight Morris, medical officer to the Staines Union and the Sunbury Council, said the copper contained in the peas would be most dangerous to the system. The defence was that the peas were sold in tins exactly as received from the wholesale grocers. The tins bore the label, "Conserves Alimentaires Petit Pois Fins à l'Anglaise, Paris," and were said to have been imported from France. Mr. J. C. Buckmaster, one of the magistrates, and the well-known chemist and cookery expert, said that the peas were not allowed to be sold in France, but were prepared for the purpose of exportation to England.

**BRANDY PROSECUTION—WHAT IS ADEQUATE DISCLOSURE.**—Gulliver and Co., Ltd., 236A, Fulham Road, appeared at Kensington, on January 30th, charged with selling brandy 46·98 u.p., without adequately disclosing the quality. Mr. W. Chambers Leete prosecuted, and the defendant company was represented by the general manager. A boy named Oliver went into the defendants' shop and asked for a bottle of two shilling brandy similar to a bottle placed in the window. The bottle in the window had a tablet marked "2s." hanging from its neck in such a way as to cover a portion of the label stuck on the bottle. He was served with the bottle wrapped up, and nothing was said to him at the time. Inspector Hawkins corroborated as to the tablet covering a portion of the label. He received the bottle after the purchase from the last witness, and the shopman then drew his attention to the mark "50 u. p." on the label. The other wording on the label was as follows:—"Domestic brandy. Strength about 50 u. p.; quality, finest distilled. Carefully selected. Of great age, and can be proved by comparison." Mr. Leete explained that it was because the "50 u. p." was not sufficiently disclosed that the present proceedings were taken. The matter had gone before a committee of the vestry, and they looked upon the label as a fraudulent one. The whole question was whether the public understood what this "50 u. p." really meant. Defendant's Representative: Certainly they knew. People come in and ask for "half-proof brandy." Mr. W. Bird (magistrate): I remember having a cocoa case some time ago, and the quality of the article was stated on the label in such small print that it almost required a magnifying-glass to see what it meant. In that case brother magistrates and I found that there was not a sufficient disclosure; but the Court of Queen's Bench overruled the decision. Mr. Leete: In that case there were words which anybody could understand if they read them, but "50 u. p. we consider is not a sufficient disclosure; and looking at the other wording on the label, it seems exceedingly doubtful whether there was a sufficient disclosure as to the quality of the article. For the defence Thomas A. Marston, the assistant who served the brandy, stated that after the purchase was completed the inspector wanted to change the brandy for some at 2s. 6d. a

bottle. The Inspector, recalled, emphatically denied having said anything whatever about changing the article. Mr. Bird: We are unanimously of opinion that this label is sufficient to protect the seller of the brandy. The summons must be dismissed.

**RUM ADULTERATION.—THE WRONG PERSON SUMMONED.**—At Kensington Petty Sessions, on January 30th, W. T. Grinder, was summoned for selling rum 27·30 degrees under proof, without sufficiently disclosing the nature and quality of the article. Mr. W. Chambers Leete, the Kensington vestry clerk, appeared in support of the summons, and Mr. Elliott, solicitor, defended. Mr. Leete said the purchase was made on December 29th, and when the inspector asked for the name of the proprietor of the business, he was informed that the proprietor was Mr. Grinder, but that the licence had been taken out by a Mr. Thomas Evans. Shortly after the purchase a letter from Mr. Evans came to the inspector marked "private," and from this letter it appeared that there was a question as to whether the vestry had summoned the right man. Mr. Elliott: That is just the point. I say the wrong party is before the court. My client has never held the licence; he is lessor of the premises, and, of course, he is not liable for the sale of wines or spirits at the shop. Mr. Bird (magistrate): Would it be too late now to summon the right man? Mr. Leete: Yes, sir; it would be too late now, under the new Act. I am quite prepared to abandon the summons, but if we have made a mistake we have been led astray, and it is no fault of ours. Mr. Bird: The case must fall through.

**WHISKY PROSECUTIONS.**—Thomas Morgan, Red Lion Hotel, Llanelly, was charged with selling adulterated whisky on the 15th December last. Defendant, who was represented by his wife, pleaded guilty. Mrs. Morgan said that she mixed the whisky, and must have made a mistake. In the past Mr. Morgan had attended it. The Bench ordered the payments—25s. 3d.

At Bolton, on February 3rd, Frederick Harold Davey, of the Coach and Horses, Deansgate, was accused of having sold whisky so adulterated with water as to be 32 degrees below proof. Mr. Field, Deputy Town Clerk, stated that Inspector Spencer called at the defendant's hostelry on the 29th December, and asked for a pint of Irish whisky, which was served to him, and for which he paid 2s. He afterwards sent a sample to the Public Analyst, who certified that it was 32 degrees under proof, or seven degrees below the limit prescribed by law. The Inspector was called to prove the case. Mr. Fielding, for the defence, did not dispute the facts, but submitted that the spirits lost their full strength by evaporation. They were sent from the brewery tested in the ordinary way as up to the proper strength, but it was evident they would have to be sent out stronger in future. As the offence was due to inadvertence, he submitted that a small penalty would meet the justice of the case. The defendant was manager of the house for the Manchester Brewery Company. A fine of 10s. and costs, with the alternative of 14 days' imprisonment, was imposed.

**UNJUST SCALES.**—At Swindon Petty Sessions on February 1st, Frederick Henry Fleming, butcher, Regent Street, Swindon, was summoned for having in his possession for use in trade a false and unjust pair of scales. Defendant and his wife were also charged with committing fraud in using two scales, by placing a coin under the goods pan. Mr. H. Bevir prosecuted on behalf of the County Council, and Mr. A. E. Withy appeared for defendants. Mr. Withy said he pleaded guilty to the first charge, but not to the second. Mr. Sam Smith, inspector under the Weights and Measures Act, said he visited the shop on December 14th with his assistant. He saw the pair of scales produced on one counter, and another pair on another counter. One pair was on his right hand as he entered, and the other pair on his left hand. There was no one in the shop when he went in. Mrs. Fleming, however, came in almost immediately. He told her he had come to examine the scales and weights. Mrs. Fleming proceeded to the scales on his (witness's) right hand. There was a piece of paper on the goods pan. Mrs. Fleming put her hand under the scales and took something up. She said it was a half-penny which children had put there the night before. When the half-penny had been removed and the paper taken off they were practically correct. He was satisfied on that point. There was no occasion to put anything under the goods pan to make the scales correct. Witness then left that side of the shop and went over to the other counter. He examined the scales on this counter before Mrs. Fleming touched them, and found under the goods pan a French penny piece. With the coin under the goods pan the scales were about seven drams against the purchaser; without the coin the scales were about half-an-ounce against the purchaser. When Mrs. Fleming saw him take up the coin she said children had put it there the night before, and that those scales had not been used that morning. There were no signs of their having been used. Mrs. Fleming stated, however, that the other scales had been used, and witness believed this to be correct. He took the scales away. In reply to Mr. Withy, witness said he did not believe that children had been playing in the shop the night before. He would not believe anyone who told him such a story. Harold Fleming, a son of defendants', said he put a coin under the scales in the shop while playing with other boys. He had never done such a thing before. In cross-examination, he said he took the coins from his father's box without his parents' knowledge. The first case was dismissed on defendant paying the costs. In the second case the Bench found the male defendant not guilty, but the wife guilty; and she was fined £2, and costs, £3 2s. 6d.



## Official Reports and Notes.

### Lewisham Board of Works and the Adulteration Acts.

THE Board of Agriculture wrote calling attention to the provisions of the Sale of Food and Drugs Act, 1899, which came into operation on the 1st January, and stating that, in view of the altered position in which the administration of the law in regard to adulteration had now been placed in consequence of the passing of the Act, they would be glad if the Board would consider the advisability of employing as sampling officers a sufficient number of persons who have had experience in the class of work they are required to perform. Mr. J. G. Trotter asked if the Board was doing its duty in this direction, and securing samples other than of milk, &c., such as chewing gum, ice cream, and so on. Last year in Lewisham, with its population of 92,000, only 59 samples had been taken, whereas the Local Government Board has laid it down that at least one sample should be taken for each 1,000 of population. He knew that an official from the Board of Agriculture had recently paid a visit to Lewisham. He moved that the matter be referred to a small special committee, which might form the nucleus of a Health Committee. This was seconded by Mr. Bradley, but the motion, on the suggestion of Mr. Dodson, was altered, referring the matter to the existing special committee, with the addition of Mr. Trotter, and carried as so amended.

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### Hertfordshire County Council.

THE Quarterly Report of Mr. A. E. Ekins, F.I.C., the Analyst appointed for the County of Hertford, for the Quarter ended 31st December, 1899, says:

During the quarter ended 31st December, 1899, thirty samples of Food, etc., were submitted to me by your Inspectors, as follows:—Thirteen samples of Butter; eight samples of New Milk; seven samples of Whiskey; one sample of Demerara Sugar; and one sample of Margarine. Of these, eight samples were adulterated, which shows a percentage of nearly twenty-seven per cent. of adulteration. The percentage of adulteration for the whole of England is under ten per cent. as shown by Local Government Board returns. Legal proceedings have been instituted in each case of adulteration, and all the Vendors have been convicted.

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### Appointment of Departmental Committee to Fix a Standard for Milk.

THE Right Hon. W. H. Long, M.P., president of the Board of Agriculture, has appointed a departmental committee to enquire and report as to what regulations, if any, may with advantage be made by the Board of Agriculture under section 4 of the Sale of Food and Drugs Act 1899, for determining what deficiency in any of the normal constituents of genuine milk or cream, or what addition of extraneous matter or proportion of water in any sample of milk—including condensed milk—or cream shall, for the purposes of the Sale of Food and Drugs Acts 1875 to 1899, raise a presumption until the contrary is proved that the milk or cream is not genuine. The committee will consist of the following gentlemen, viz.:—Lord Wenlock, G.C.I.E., chairman; Mr. Geo. Barham, Mr. Geo. Cowan, Major Patrick, Geo. Craigie, an Assistant Secretary of the Board of Agriculture; Mr. S. W. Farmer, Mr. Shirley, F. Murphy, M.D.; Professor Thorpe, F.R.S., principal chemist of the Government Laboratories; and Mr. J. A. Voelcker, Ph.D. Mr. Robt. Hy. Rew, of the Board of Agriculture, will act as secretary to the committee.

### Adulterated Food in Manchester.

THE Manchester city analyst (Mr. Charles Estcourt) reports that during the quarter ending 31st December he officially analysed 49 samples of food, and found only 16 of such samples adulterated. Nine out of the 16 samples were of milk, six of butter, and one of coffee.

\* \* \* \*

### Adulteration in Lancaster.

THE chief constable of Lancaster, in his annual report to the Watch Committee, says thirty samples of food were purchased during the year, of which twenty-nine were reported by the analyst to be genuine, and only one adulterated.

This seems a small number of samples for Lancaster, and hardly enough to afford adequate protection against adulteration.

\* \* \* \*

### The Result of Three Months Work for Pure Food in Warwickshire.

DR. BOSTOCK HILL is county analyst for Warwickshire, and he reports that during the last quarter he analysed fifty-nine samples of butter, eight of coffee, two of mustard, one of ginger, ten of tea, one of sugar, two of vinegar, one of linseed-meal, one of cocoa, and one of lard. Five samples of butter were adulterated, all to a very large extent, the quantities of foreign fat being in four cases 90 per cent., and in one 95 per cent. In these cases prosecutions were instituted. One summons was dismissed on a legal technicality, but fines of £2, £5, £10, and £20 were inflicted, the largest being, he believed, the largest fine ever inflicted in the county for prosecution in adulteration cases." Under the existing arrangements," the Sanitary Committee says:—"At times no samples are sent to the county analyst for weeks together, while at the end of the quarter, and more particularly at the end of the year, his laboratory gets flooded with samples. The analyses of certain articles are extremely difficult and tiresome. In our opinion, says the Sanitary Committee, it will in future be necessary for all samples to be taken by the council's own officers, and that those officers should work in conjunction with and under the direction of the county analyst, who will arrange when samples shall be sent, what the number shall be, and the nature of the articles to be submitted, &c."

This is objectionable. No public analyst should be in a position to say what articles should be taken for analysis, because in principle it is wrong, as anyone can see who reads the advertisement columns of our trade press, and knows that public analysts also do private analysis. The position of a public analyst who gave a certificate eulogising one firm's goods would be seriously open to question were a prosecution to take place, directed by him against a rival firm's products. The analyst's position is in the spirit of the act that of an expert. He has no right to trench on the inspector's province, and if he respects his reputation he will refuse to do so. In expressing this opinion we must not be regarded as applying it to Warwickshire particularly, because it is of universal application. Our respect for Dr. Hill and our appreciation of him will divest our views of any personal application. If public analysts were angels from heaven they ought not to have such powers, and in their own interests they should refuse them,



### Cork Corporation, as Hitherto, will "Burke" the Adulteration Act.

A CORK correspondent directs attention to what he complains is the venal and corrupt character of the Corporation of Cork and the scant regard that body has for the encouragement of Ireland's industries.

It seems that the Adulteration Acts have never been other than a farce in Cork, and that however terrible the consequences have been to the Irish butter trade the grossest swindles have been allowed without any real attempt at suppression. How much this supineness has benefitted Denmark, Brittany, Germany, and our Colonies, Ireland's dairy industries has unhappily experienced. Recently the Cork Butter Market Trustees wrote to the Corporation requesting that the provisions of the new Food and Drugs Act, so far as they apply to inspection and registration, should be put into force in the district. Mr. D. Horgan, T.C., personally appeared before the Corporation Committee, and said the butter market trustees were anxious to have a system of inspection established by the Corporation. It was a subject of very great importance in a butter-producing district like that surrounding Cork. The agriculture of the country was languishing, and many eminent persons attributed that state of things, to some extent, to the adulteration of butter. The Town Clerk said that it was not within the province of the Corporation, as the local authority, to adopt the system of inspection referred to, as that was the duty of the new department of agriculture under the Agriculture and Industries (Ireland) Act. A resolution was passed directing his attention to the Board of Agriculture in the matter." It would be hard to imagine a more fatuous resolution says our correspondent. As to the general articles of food sold in Cork the Acts have been practically dead.

\* \* \* \*

### Our Ignorant Board of Agriculture and the Middlesex County Council.

To those who have a practical knowledge of the activity of the Food and Drugs Act Inspectors under the Middlesex County Council, the Board of Agriculture, in a circular just considered by the Middlesex County Council, affords a pitiable exhibition of ignorance.

The Board of Agriculture, which has not one person on its staff who understands the Food and Drugs Acts or knows what districts require censure or waking up, had the impudence to write to the Middlesex County Council requesting that body to consider whether the number and class of inspectors appointed by them are such as to be fully adequate to meet the requirements of the district, and urging upon the council the advisability of employing, as sampling officers, a sufficient number of persons who have had experience in the class of work they are required to perform. The council replied that with the exception of London, Lancashire, and the West Riding of Yorks, more samples were taken than in any other city, and they saw no reason to increase the staff. During the quarter ended December 31st, no less than 718 samples were taken by the Middlesex inspectors.

To the readers of *Food and Sanitation* who know the zeal of the Middlesex Inspectors, and their knowledge of adulteration and the Acts, this specimen of the deadly incapacity of Mr. T. H. Elliott, is instructive. It shows the Board of Agriculture to be, even with its present opportunity, hopelessly incapable.

\* \* \* \*

### Wolverhampton and Another Exhibition of Board of Agriculture Ignorance.

ANYONE who knew anything of the working of the Food and Drugs Act would, of course, know that Wolverhampton has enforced them intelligently and well, but Mr. T. H. Elliott, permanent secretary of the Board of

Agriculture, has had the assurance to instruct the Wolverhampton authorities in their duties.

It is a great pity that Mr. T. H. Elliott does not secure the services of some competent Inspectors like Mr. G. F. Allwood, Food and Drugs Act Inspector for Wolverhampton, Mr. R. Watts, Mr. A. Liddle Bridge, or Mr. W. Tyler, who know the Acts and Middlesex, to coach him and cram into him the elementary knowledge he so painfully lacks. He would save himself his persistent exhibitions of official asininity.

\* \* \* \*

### Cambridgeshire County Council and the Adulteration Acts.

It is more than probable that the Cambridgeshire County Council of the Board of Agriculture will come into conflict should the council adhere to its present position. At its last meeting the Chairman (Mr. A. Sjerling) remarked upon the small number of articles analysed during the past quarter, and thought that the system of submitting articles for analysis should be made more efficient. The Vice-Chairman, Mr. R. Stephenson pointed out that each analysis costs 10s., and said the committee had been very careful to instruct the chief inspector to have the most suspicious articles and the cheapest he could get analysed. No action was taken to increase the number of samples. As Cambridge is a place which for years has been in the Local Government Board's black list it is likely to be one of the first in which the Board of Agriculture will itself enforce the Acts if it means to do any work.

\* \* \* \*

### The West Sussex Public Analyst on Adulteration.

MR. OTTO HEHNER, public analyst, 11, Billiter Square, London, states that during last quarter 28 samples of golden syrup from West Sussex were analysed by him of which seven contained starch glucose in quantities of 25 to 80 per cent. Five convictions resulted. Mr. Hehner expresses the opinion that the great complication which has been caused by the passing of the New Food and Drugs Act will render it much more necessary for solicitors to be employed in presenting the cases for the prosecution to the court.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### Securing Justice for Retail Traders.

SIR,—Referring to your article of the 3rd inst. under the above heading, we are very pleased to find that Mr. Scott-Elder is taking action against producers of spurious and falsely labelled goods, rather than against the retailers, and we trust his action in the matter may induce other Inspectors to take a similar course.

We have long felt that retailers have been very unfairly treated when prosecuted for selling impure goods, whilst the real offender escapes without even his name appearing in newspaper reports of such cases—thus leaving him at liberty to carry on his unscrupulous trading.

In the vinegar trade, and we believe in many others too, retailers rely solely on the representation of the producers of articles, as to their quality and purity, and if in this respect the producers misrepresent facts, they should be prosecuted for so doing, and unless producers of spurious goods are more frequently prosecuted, we despair of seeing the markets cleared of the huge quantity of inferior articles now on offer. In the meantime we strongly recommend retailers generally to insist on having properly worded guarantees of quality of goods, affixed not only to the packages, but also to the invoices accompanying the goods, and these might then be produced in Court in defence of the retailer, in event of legal proceedings being taken against him. Some guarantees of quality are so vaguely worded as to be of no value, and these should not be accepted.

Yours respectfully,

Fardon Vinegar Company, Limited,

A. FARDON,

February 5th, 1900.



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## Food and Sanitation.

SATURDAY, FEBRUARY 17, 1900.

### Are Beer Barrels Measures?

#### Gross Frauds Upon Publicans.

IN two parts of England recently the question of beer barrels as measures has been considered and in many cases in which the barrels have been tested it has been found that although the brewer has charged the publican for 36 gallons the actual quantity contained in the barrels has been from one gallon to two gallons or more or less. In article in *Food and Sanitation*, March 4th, 1899. Mr. G. Croxden-Powell computed the frauds upon publicans saying: "The worst and most unscrupulous.

sort of brewers take, by means of barrels which have been diminished time after time and by not filling their casks, some £2,000,000 per year beyond and above ample and good business profits. There are many such plungers among brewers, who are not only the enemies of the public, but equally so in their trade against the best and most honest brewers we have amongst us." Why has this fraud had a free run for so long a time? The reason is a plain one—the Board of Trade has by circulars deliberately lied to the County, City and Borough Councils, and the Weights and Measures Inspectors throughout the country by leading the officials to believe that it was not their duty to test beer barrels nor had Inspectors the power to do so.

Inspectors can proceed against these fraudulent brewers under the Merchandise Marks Act if they choose, as in *Budd v. Lucas* the High Court decided that the local justices had done right in convicting the defendant brewers under the Merchandise Marks Act for "A false trade description," i.e., invoicing a barrel of ale as a "36" when it was only of a capacity to hold "34."

But as so many publicans are by the iniquitous "tied house" system bound hand and foot to the brewers they dare not claim legal measure nor justice, nor dare they help Inspectors to secure it for them—hence the Merchandise Marks Act protection is practically useless.

We recommend our readers and the local authorities who have been recently considering the question to look at the Acts 41 and 42 Vic. c. 49 and 52 and 53 Vic. c. 21, and we think they will see how unjustifiable and mendacious is the Board of Trade Circular on the subject: "For Excise duties, the Act of 5 Geo. IV. c. 54, s. 17 declared a barrel to be thirty-six gallons. It also declared that a firkin of nine gallons should be used by brewers for certain sales, and in another case of the kind a four and a half gallon cask should be used. The kilderkin is a half-barrel, and the multiples beyond the barrel are regular increases of that measure. On the establishment of the barrel the 14th section of the 43 Geo. III. c. 69 (1803), was plain.

"That no beer or ale brewed by the common brewers in Great Britain shall be sold by such common brewers at any other rate or quantity for the barrel than the aforesaid quantity of 36 gallons; any law, practice or usage to the contrary notwithstanding." The statute of 1531 insisted that each class of cask should "hold and contain" the stipulated number of gallons of the beer or ale sold, or *else over and not under*. If you go to the several service stores and get their beer lists, says Mr. Powell, you will see that the price is quoted for known public measures, which is agreed between buyer and seller to be the quantity intended between them.

The Board of Trade circular stating that new standards would be required and an order in Council to enforce them is a preposterous assertion. The standard gallon is the unit of measure for all liquids, and all parts of the gallon and all multiples of it are to be derived from it, and all measures to be compared with it. If the



Board will read Sect. 15 of 41 and 42 Vict., c. 49, they will find the unit there stated, and in the second paragraph it further says, "The quart shall be one-fourth part of the gallon, and the pint shall be one one-eighth part of the gallon." In the Second Schedule it is recited that the following are the measures in use under the Board of Trade: "Gallon, half-gallon, quart, pint, half-pint, gill, half-gill, quarter-gill."

These it will be seen descend from the gallon, so that if the gallon is to be abandoned for the larger duty of checking beer casks it must follow that it cannot be used for testing the smaller measures above-named. As a footnote to the above schedule is the following: "Note.—The brass gallon marked 'Imperial standard gallon Anno Domini MDCCCXXIV., Anno V. Geo. IV. Regis,' which has a diameter equal to its height, and was made in pursuance of 5 Geo. IV. c. 74, s. 6, and is at the passing of this Act in the custody of the Warder of the Standards, shall be deemed to be a Board of Trade standard for the gallon."

Now if that Act was good enough to construct a standard gallon and to declare it the unit of standard measure of capacity in Sect. 15 of the Act of 1878, that same Act must also be taken in reference to this measure in the uses to which it was to be applied. It is given in the very section that established the standard gallon, and says, that this brass measure "is hereby declared the unit and only standard measure of capacity, from which all other measures of capacity to be used, as well for wine, beer, ale, spirits, and all sorts of liquids—as for dry goods

not measured by heaped measure—shall be derived, computed, and ascertained; and that all measures shall be taken in parts or multiples, or certain proportions of the said imperial standard gallon, and that the quart shall be the fourth part of such standard gallon, and the pint shall be one eighth of such standard gallon."

Further, as convictions have been obtained despite the circular of our "nobbled" Board of Trade it is to be hoped that Inspectors and authorities will prosecute and pay no heed to the Board of Trade's opinion and suppress this gross fraud. A Board of Trade Circular however corruptly obtained is not an Act of Parliament, and where it shields roguery it should be treated with contempt.

Brewers have had too much "pull" out of Government departments for years past as witness the "chemical beer" constituents we give on another page. We have come to a pretty pass in England if the law cannot punish a man for fraud who sells 34 gallons of beer to his "tied house" and compels payment for 36 gallons. With the profit of this swindle and the use of chemicals and substitutes reducing the cost of beer production 35 per cent. to the brewer whilst it is still charged the same price to the publican and the consumer there is no wonder brewers are covered with riches and can afford to "noble" our Board of Trade and Revenue Departments. As the Augean stable of our War Office is likely to be cleaned out we hope some Members of Parliament will demand a clearing of the other two departments we name as the War Office cannot claim a monopoly of incapacity, corruption, and rottenness.

## The Food and Drugs Acts in Sunderland: Amazing Action of Magistrates.

SEVERAL years ago we drew the attention of the Local Government Board to Sunderland and the practical non-enforcement of the Food and Drugs Acts. If the following case represents faithfully either the temper or the intelligence of Sunderland Magistrates, there is little reason to wonder that the Acts are moribund:—

On December 23rd last, at the Borough Police Court before Messrs. T. Elliot and R. A. Bartram, seven cases were tried under the Food and Drugs Act. The Town Clerk prosecuted. The first charge was against Robert Grieve Davison, and Mr. E. Bell defended.

The Town Clerk said that the case was taken at the instance of the Corporation for an offence under the Food and Drugs Act, in that he sold a certain article which was not of the nature, substance, and quality demanded, namely, butter. On November 24th, Elizabeth Wilson Reed went to Mr. Davison's shop in Hylton Road, and asked for a pound of butter. There were at the time two half-casks of butter on the counter unlabelled. The assistant asked at what price she wanted it, and she inquired the price they had the butter at. The reply was 1s., 1s. 1d., or 1s. 2d. Miss Reed then asked for a pound of the 1s. Thereupon she was supplied, and Inspector Pennock entered the shop and took possession of the parcel, and divided the contents according to the Act. One portion was given to the salesmen, and Inspector Pennock said he was going to have a portion examined. The sample was sent to the Public Analyst, whose certificate stated that the sample contained twenty per cent. of margarine.

Elizabeth Reed and Inspector Pennock having given evidence bearing out this statement, and the certificate of the analyst having been put in, the case for the prosecution closed.

Mr. Bell, for the defence, pointed out that Mr. Davison had been a tradesman in the town for over twenty-five years. He admitted that the butter was sold by the manager at Alexandra Terrace, but he (Mr. Bell) thought he would have little difficulty in satisfying the Bench that the butter was perfectly pure and unadulterated.

The Town Clerk here objected. As a matter of law, he said, that could not be done. The Act said that the analyst's certificate was sufficient evidence, unless the defendant required the attendance of the analyst. There had been no request for the analyst to be called. The prosecution should have had notice of such request.

Mr. Bell pointed out that by a decision given in the Queen's Bench the magistrates must weigh the defendant's evidence against that of the prosecution. The certificate was sufficient but not conclusive.

The Bench stated that if the Town Clerk wished for an adjournment to call the analyst they were agreeable.

The Bench, after further argument, decided that the case should go on.

Mr. Bell said he should prove that the Public Analyst had made a mistake. The sample had been examined by Mr. Charles Ranken, and Messrs. Joshua Wilson had also had a portion analysed, and both analysts had certified the butter to be pure.

Mr. R. G. Davison was briefly examined, and Messrs. Charles Ranken and Merson bore out the statement that the butter was pure.

The Town Clerk applied that a sample of the butter might be forwarded to Somerset House for an independent analysis.

The Bench decided to go on.



Other evidence having been called, the Town Clerk again objected that notice should have been given to the prosecution.

The Bench retired for a while, and on returning, intimated that the case was dismissed.

The Town Clerk then asked that the defendant be ordered to pay the costs, as he had a warranty for the butter, and the prosecution had not been so informed, but the Bench refused the application.

The next case against Mr. Davison was that of selling margarine in paper not properly marked.

The Town Clerk said he was proceeding with the intention of persuading the magistrates to order a portion of the butter to be sent to Somerset House.

The Bench said they did not see that there were any fresh facts to induce them to alter their decision as to the butter.

The Town Clerk: I must say I am obliged to your worships for giving your decision before hearing evidence.

The Bench: We have had sufficient evidence.

The Town Clerk: But none has been given.

Mr. Bartram: The hearing has been very prolonged. I am sorry to interrupt you.

The Town Clerk: I must point out the effect of your decision. I and the Medical Officer of Health will have to advise the health authorities that it is of no use taking proceedings—

Mr. Barker (the Magistrates' Clerk) here got up, and addressing the Bench, said "This must not be allowed, sir."

Mr. Bartram (to the Town Clerk): You cannot say that here.

Mr. Bell also protested against the reflection on his client.

The Town Clerk was still explaining the effect when

Mr. Bartram said: "You have had considerable allowance. We cannot allow you to talk to the Bench in such a manner."

The Town Clerk: In what manner?

Mr. Bartram: You must sit down at once, sir.

The Town Clerk: I did not mean anything offensive.

Mr. Bartram: Sit down, sir! Sit down, sir! at once.

The Town Clerk sat down, and the costs of the prosecution against defendant were not allowed.

This conduct of the magistrates and their clerk is not only unseemly, but is contrary to all procedure, and is more fitted for *opera bouffe* than a reputable court. It is not, therefore, surprising that result should be as unsatisfactory as the following correspondence discloses. Mr. Pattinson, the Borough analyst wrote to the Medical Officer of Health:—

DEAR DR. SCURFIELD.—I am very much astonished and annoyed at the action of the Sunderland Bench in the case of the No. 77 butter. It is most unfair to me as the public analyst,

to say nothing about the public interest. Surely the proper course to follow in the conflict of evidence was for the magistrate to order the third sample (taken for this purpose) to be sent to Somerset House for analysis, even if they had not been asked to do so by plaintiff or defendant; but to refuse to send the sample under such circumstances, even when asked to do so by the plaintiff, is, I think, unprecedented, and, as I have said, most unfair to me. . . . Of course, if the magistrates dismissed the case on the score of the warranty they may have been legally right, but if this was the case they should have stated it in court.

. . . I am afraid the Somerset House authorities will not analyse the sample unless it is sent by the magistrates, but I think under the circumstances it would be well to ask them. The magistrates, however, will not have another chance of acting so unjustly, for, according to the new Act, the magistrates must send a sample to Somerset House when requested by either party.

Yours, &c.,

JOHN PATTINSON.

At a meeting of the Health Committee of the Sunderland Council, the Medical Officer of Health reported that the remnants of "butter" which was analysed by the two analysts called for the defence, and which was kept in the hands of the Chief Constable had been sent to Dr. Stevenson Macadam, who had examined it and certified that it contained 10½ per cent. of foreign fat. The position, therefore, was that the three different analyses of the "butter" by the Borough Analyst and Dr. Macadam (2), gave three different results. One sample contained 20 per cent. of foreign fat, one 14½ per cent., and the other 10½ per cent. He wrote to Dr. Macadam pointing out the fact, and asked him if it was due to the foreign fat having been unequally mixed with the butter, receiving a reply to the effect that the different results might be due to that fact, as he had frequently got similar divergent results from analyses of the same mixture. It was decided to recommend the Council to go on with the appeal, which is as to whether the magistrates had a right to hear the evidence of analysts against the certificate of the Borough Analyst, without having first called that official as a witness.

A sample of the same "butter" was also sent to Somerset House, but the authorities there wrote stating that the magistrates having adjudicated on the matter, they would not analyse the sample.

It is a scandal that magistrates should have so slight a regard for proper procedure that a state of things arises unsatisfactory to the trades concerned, and to the Town Council, and necessitating a costly appeal which common sense would have avoided.

## Sunflower Oil—A Suggested New Home Industry.

It is a well-known fact that the seeds of the sunflower, which plant grows and thrives in all parts, and ornaments the front and back yards of thousands of homes in both city and country, are remarkable for their oleaginous qualities. And yet growing as it does in the richest profusion in every part of the land, we are not aware of the plant being cultivated for any other use in this country than for its showing gorgeousness. Certain it is that there are no sunflower plantations in this country, and the collection of its seeds for the purpose of obtaining the oil from them has not been entered upon here.

In a few foreign countries, says the "Paint, Oil and Drug Review," however, the sunflower is highly prized, and more especially in Russia it has been known for many years, and there in certain districts it is cultivated on a large scale, and for the sole purpose of obtaining the oil from the seeds. The first cultivation of sunflower seed for mercantile purposes in Russia is said to have begun in 1842, in the province or district of Berutchinsk. The people among the peasantry with one accord seemed to turn their attention to it, and the result of this effort has been that the province has become the chief district in European Russia for the cultivation of the growth of the

sunflower. From there the cultivation of the sunflower spread to the adjacent governments of Tambov and Saratov where there are extensive cultures owned by the town of Saratov itself.

The people of the governments of the Don, Simbirsk, and Samara, are more or less engaged in this trade. Two kinds of sunflower are known and grown, one with small seeds used for the production of the oil, and the other with large seeds consumed by the common people in enormous quantities as a dainty.

In a district where the seed is cultivated on a large scale, and the plant has been continually grown on the same soil for many years in succession, the sunflower has become subject to a disease, and owing to this fact the crops have been rather poor for a few years past, but the disease is disappearing, and the culture during the present year is said to be large and promising. The sunflower seed is used principally for obtaining an oil which has superseded all other vegetable oils in many parts of Russia, and the demand for it is constantly on the increase.

In general, the cultivation of the sunflower in Russia is considered to be very profitable. At the average yield of 1,350 pounds per acre. The income, it is said, can be



increased where the grower himself is engaged in producing the oil from the seed, otherwise the farmers sell their product direct to the oil producers.

Oil manufacturers can learn from this statement of fact that the manufacture of sunflower oil is a matter of some importance in some towns and provinces in Russia. The substance remaining from the oil manufacturer, or the sunflower cakes, being used as cattle foods, is also a valuable product. These cakes are almost wholly exported, principally to Germany and England, where it finds a ready sale. The seed-cress are used in Russia as food for sheep.

Of the different kinds of sunflower seed in Russia—some white or grey, some brown with white or grey stripes, some quite black, dyeing the cells a dark violet color—the grey and striped seeds are preferred, as they appear to be much clearer and handsomer, and therefore command a higher price, especially for the purpose of raw consumption by the common people. The small seed produce the most

oil, and is sold to manufacturers. These seeds are flat and oval, like coffee beans, and are considered the best for this industry.

Whereas the cultivation of the sunflower for the production of oil was formerly confined to Russia and India, its culture has been taken up by Germany and Italy. The sunflower plant grows to perfection in a light, rich, calcareous soil, unshaded by trees. It is a plant of the easiest kind of culture, and is recommended for any vacant ground, to be planted six inches apart and one inch deep, and to be earthed up one foot high, requiring no subsequent attention.

The oil when purified is considered equal to olive and almond oil for table use, but the chief industrial applications of the oil are for woollen-dressing, lighting, and candle and soap-making. For soap-making it has no superior, and large quantities could be sold in our markets for this purpose alone. It is of a pale yellow color, and could be made in this country a source of considerable profit.

## Dietetic and Hygienic Notes.

### Cottonseed Oil and the Koran.

A CURIOUS inquiry received at the United States Department of Agriculture indicates the ends of which trade interests may go to kill competition. It seems that it has been whispered into the ear of Saleh Ben Hassen, a prominent Mahometan of Tripoli, and likewise hinted to others of his faith, that American oils, contain the product of the hog, and that French and Italian oils do not, and, besides, are better. And so Saleh Ben Hassen writes to his friend, one of the explorers of the Agricultural Department, recently returned to the United States from the Mediterranean countries, in great anxiety lest his brethren should have been eating the forbidden pork, and inquired whether American "olive" oil or cottonseed oil exported contains lard oil.

This calls forth another exceedingly delicate feature of pure food investigations, says the *Paint, Oil and Drugs Review*. Heretofore the considerations have been the health of the consumers, and the question whether they were being defrauded by paying the price of a costly article and getting one of low value; but now enters the question of religion. It is probable, however, that should Saleh Ben Hassen, convinced that American oil contains the fat of the Koran forbidden hog, resolutely avoid all American oils and devote himself only to the "purer" products of France and Italy, he might yet be in the very danger he would seek to avoid, for the reason that France annually imports from the United States of cottonseed oil and exports annually about a like amount of olive oil.

Cottonseed oil makes an excellent olive oil, and Saleh Ben Hassen states that he likes the American oil, and it is thought at the Agricultural Department that the scruples of himself and of other Mahometan consumers and merchants can be satisfied as to its composition, so that a good market for an American product may not be lost, cottonseed oil being exported to Africa to the amount of nearly a million gallons annually, to say nothing of other Mahometan countries.

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### Tonbridge Guardians taking Medical Opinion about Margarine.

THE Board of Guardians of Tonbridge (Kent) decided to take medical opinion as to the value of margarine as food. This action was taken because one member proposed that butter should be provided for the inmates in place of margarine. The Master stated that butter would cost £16 per year more.

### Soda-Water to Relieve Hunger.

WATER charged with carbonic acid gas—in other words, soda-water—is now prescribed as a palliative for hunger, especially for an abnormal sense of hunger due to disease. Says *Modern Medicine*: "Carbonic acid gas has the singular property of lessening the sense of hunger, and may profitably be remembered in dealing with cases of diabetes in which bulimia (abnormal hunger) is a prominent symptom. The seat of hunger is found in the solar plexus. By the use of water charged with carbonic acid gas, the branches of the solar plexus distributed through the mucous membrane of the stomach are influenced in such a way that the abnormal irritation of the plexus, which is the foundation for the ravenous hunger often present in diabetes and certain forms of indigestion, may be greatly mitigated, if not wholly appeased. Water charged with carbonic acid gas may likewise be employed with advantage in many cases of hyperpepsia in which there is a sensation present in the stomach described by the patient as a gnawing sensation, 'goneness,' emptiness, etc."

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### The Milk and Cream Standards Committee.

THIS departmental committee, appointed by the President of the Board of Agriculture "to inquire and report as to what regulations, if any, may with advantage be made by the Board of Agriculture under section 4 of the Sale of Food and Drugs Act, 1899, for determining what deficiency in any of the normal constituents of genuine milk or cream, or what addition of extraneous matter or proportion of water in any sample of milk (including condensed milk) or cream, shall, for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, raise a presumption until, the contrary is proved, that the milk or cream is not genuine," met at 3, St. James's Square, on February 8th, to consider its course of procedure. Lord Wenlock was in the chair, and the other members present were Mr. George Barham, Mr. George Cowan, Major Craigie, Mr. S. W. Farmer, Dr. Shirley Murphy, Professor Thorpe, Dr. Voelcker, and Mr. R. H. Rew (secretary). The terms of the reference to the committee were considered, and it was decided to call evidence representative of the views of the various interests concerned, including dairy farmers, milk dealers, public analysts, etc. The committee propose to take evidence on March 1st,



### Some Considerations on Beer.

"I loves a drop of good beer—I does,  
I'se partickler fond of my beer—I is,  
And —— their eyes, if ever they tries,  
To rob a poor man of his beer."—*Old Song.*

ONCE upon a time, before Mr. Gladstone, Sir Algernon West, Mr. Richard Bannister and Dr. I. Bell had paramount rule over the quality of liquor, beer in England was made from malt, hops, water and yeast. In Bavaria and some other places of no importance, if a brewer be discovered making beer of any but these ingredients at this day he suffers such pains and penalties that he abandons the trade of public poisoning. Englishment will be glad to learn that English beer is now made from the following substances, the list of which was culled during the past few years from trade circulars and brewers' papers:—

Laevo saccharum  
Inverted sugar  
Carameline  
Saccharosite  
D.G.C. (dextrinous grain caramel)  
Hop equivalent  
Caramelised dextro maltose  
Dutton's malt flour  
Pylax  
Premier dry calcic-sulphite (two qualities)  
Premier Burton water crystals  
Premier Dublin water salts  
Premier hop extract  
Premier heading syrup and powder  
Acetic acid  
G. and S. patent dextro diastatic malts  
Gelatinised rice malt  
Gelatinised maize malt  
Flaked golden maize  
Flaked silver maize  
Granulated silver maize  
Granulated golden maize  
Caramel  
Lionbrand brewing sugars  
Saccharines  
Dextrin maltose  
Torrefied maize malt  
Pure malt saccharine  
Cane sugar  
Invert sugar  
Saccharum  
Pale yellow malt sugar  
Premier liquid caramel  
Premier caramel chips  
Premier dextrinous caramel (solid and liquid)  
Premier saline crystals (crushed)  
Premier black beer priming  
Premier potassic - bisulphite transparent crystals  
Premier ale priming  
Tartaric acid  
A. and B. solutions  
Phosphate ammonia  
Phosphate lime  
Phosphate soda  
Carbonate of soda  
Caustic soda  
Caustic potass  
Grape or brewing sugar  
Patent acid neutraliser  
Burton salt liquor  
Dry sulphate calcium  
Inverted cane sugar  
Maltocone saccharine sugar  
R. and W. grape sugar  
Brewer's saccharum  
Laevulose saccharum  
Dextro laevulose  
Laevo-maltose  
Sago and maize saccharines  
Eurest sulphurous acid  
Antacidine  
Ecumin or foaming powder  
Burton spring liquor  
Anti-acetous ferment liquor

Torrefied flaked malts  
Gelatinised flaked rice malts  
Patent antacid  
Patent heading powder  
Burton ale salts  
Calcic sulphite  
K.M.S.  
Laevuline priming  
Flaked malts  
Bisulphites of lime, magnesia, potash, and soda  
Sulphites of lime, magnesia, potash, and soda  
Sulphates of lime, magnesia, potash and soda  
Premier barley malt extract (3 qualities)  
Premier rice malt extract (3 qualities)  
Premier malto dextro glucose (3 qualities)  
Flaked maize malt  
Brewing chlorides  
Catechu  
Chloride of calcium  
Chloride of sodium  
Chloride of magnesium  
Gypsum  
Kainit  
Neutralizers (liquid and powder)  
Pearl ashes  
Permanganate of potass  
Salicylic acid (powder and solution)  
Sulphurous acid  
Tannic acid  
Jet caramel  
Dry calcic sulphite  
Calcic chloride solution  
"Cum Grano Salis," for water hardening  
Malto peptone yeast food  
Pure malt saccharine  
Raw grain  
Corn flakes  
L.H. liquid hops  
Aroma of hops  
Compound yeast food  
Hydro-sulphite of lime  
Hydro-sulphite of magnesia  
Sulphosite  
Patent neutraliser  
Pure sulphite of lime  
Artificial hops  
Aphrodite  
B.Y.F. Burtonising fluid  
Pure bicarbonate of soda  
African hops  
H.S. Hop supplement  
Patent dry frothing powder  
B.P. beer preservative  
P.H. permanent hardening  
Y.N. yeast nourishment  
M.M. mash material  
Heading solution  
Brewing material No. 1  
Patent grist made from rice only  
Dextrin-maltose  
Dextro-saccharum  
Glucose

There is evidently something faulty in our licensing laws, and no man supplying this kind of chemical earthquake ought to be content with a beer-seller's licence. He should have a certificate of membership of an assassination association.

### Dangers of Headache-powders.

"THE absurdity and danger of the 'nostrum' cure," says Dr. Leffman, "can be no better illustrated than in the case of 'headache-powders.' These are put up in packages for a few pence, and profess to cure all kinds of headaches in a few minutes. Now, anyone who has any knowledge at all of human ailments knows that there are at least a dozen different causes of headache. It may arise from indigestion or eye strain, both very frequent causes; or it may be a symptom of brain disease, liver complaint, kidney complaint, or the result of simple exhaustion. The folly and absurdity of prescribing a remedy which is supposed to cure all or any of these various kinds of headaches is evident. It is just as if a physician would undertake to cure every ill to which flesh is heir by prescribing one medicine for all. There is a more serious phase of the question, however. The basis of nearly all the 'headache' cures is one or other of a certain class of drugs which are most dangerous from their uncertainty of action. Coal-tar and all its products, aniline and similar drugs, which appear in these 'headache powders' in different forms, are dangerous drugs."

A case at Ulverston shows the need of this warning. A boy named Jonathan Brewer, aged nine, has died under peculiar circumstances. He complained of a bad headache, and a headache powder was given to him. He grew worse, and died the next day. Dr. Campbell Brown, county analyst, who made an analysis and examined one of the powders, half of one of which was given to deceased, said from the symptoms described and the analysis and his experience of similar cases, he had no doubt death was due to an overdose of antisebin. The jury returned a verdict in accordance with this, but attached no blame to the parents. Why the jury did not condemn the sale of these dangerous quack nostrums is surprising.

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### Home versus Foreign Cured Bacon.

I AM induced (says Professor Long in the *Manchester Guardian*), to say a word for Irish bacon and hams, and indeed for the cured pig meat of home production, as compared with that obtained from over the sea. It has been given in evidence that mild-cured meat, which is demanded by the consumers of the day, can only be produced by the aid of boracic acid or borax. I have taken some pains to ascertain the facts of the case, and I am assured on the very best authority that, with one exception—and that I believe to be an insignificant one—no firm of curers in Ireland uses chemical preservatives of any kind. I have had the opportunity of seeing the whole of the work conducted at one of the great Irish curing-houses, that of Messrs. Shaw of Limerick, and am assured by the firm that these materials have never been employed. It has since been stated in evidence that the great Wiltshire house of Harris also produces without help of this character. Surely, therefore, the testimony of merchants, factors, and traders, which has been of such a sweeping character, must be enormously discounted. It appears, too, from the Danish Commissioner that the Royal Board of Health of Denmark, based their objection to the employment of boracic acid in butter upon their belief that more than a gramme—which equals about 15 grains—of this drug could not be consumed daily without detriment to health; but according to statements which have already been made—by officers of health in particular—it is clear that many persons who are consumers of bacon, sausage, milk, butter, jam, and temperance drinks in particular, consume very much more than this, some of these materials being very heavily fortified by one or other of the commonly employed preservative agents. According to a new return which has been made, temperance drinks, jams, and such potted meats as brawn are preserved to the extent of, in round numbers, 70 per cent.; in other words, of the samples taken, the numbers in which preservative materials were found were approximately high.



## Official Reports and Notes.

### Hull Corporation Markets Committee & Fraudulent Beer Barrels.

Coincident with the abortive prosecution recorded in our legal columns, the Markets Committee of the Hull Corporation discussed the question whether their inspector took any steps to test the capacity of beer barrels at breweries. He had heard of some 36 gallon casks being fully two gallons short. He thought the smaller tradesmen were pretty smartly looked after, and suggested that some attention should be paid to bigger people.

Mr. T. G. Hall said it seemed to him to be a question not of whether a cask held a certain quantity, but whether it was full when it left the brewery. (Laughter.)

The Inspector stated that he had no power under the Licensing Act to test the capacity of the casks.

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### Adulteration of Food in Manchester.

MR. C. ESTCOURT, the Public Analyst appointed for the City of Manchester, reports upon the articles analysed by him during the quarter ending the 31st day of December, 1899. Article submitted for analysis:—Milk, 290; bread, 10; lard, 6; cheese, 6; oatmeal, 5; flour, 5; ground rice, 4; ground ginger, 6; butter 50; white pepper, 14; mustard, 5; tea, 4; Demerara sugar, 3; coffee, 9; beer, 8; spirits, 24; preserves, 6, sweets, 4. Total number of samples analysed during the quarter—459. Number of samples adulterated—16.

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### St. Helens and Adulteration.

At a meeting of the St. Helens Watch Committee, the report of the Borough Public Analyst for the past quarter showed that during that period 39 samples had been analysed, including 15 of butter, 12 of new milk, two of tea, two of bread, two of lard, two of pepper, two of coffee, and two of cheese. All, with the exception of three samples of butter, were found to be genuine, and in the cases mentioned proceedings was taken and convictions obtained.

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### East Riding County Council and Whisky and Beer.

LORD WENLOCK asked Alderman Burton, Chairman of the General Purposes Committee, if he was satisfied with the analysis under the Food and Drugs Act. He had looked at the list of articles their officers had purchased for analysis and found that some of the articles that most concerned the public were left out. Beer and whisky did not appear. It was a common report that the public had to put up with abominable stuff in beer and whisky at some public houses. He did not say it was so in the Riding, but he thought samples should be taken, and also samples of milk and butter. He thought the inspectors should go round in plain clothes.

Alderman Burton replied that he was satisfied with the analysis returns. It was perfectly impossible to have long lists every quarter of every kind of sample they would like. They had so many samples of whisky taken two years ago, that one of the members asked if whisky was the only thing they thought of having analysed. With regard to beer, perhaps they had not had as many as they ought.

Lord Wenlock: None at all.

Alderman Burton said the Committee would be glad to order samples to be taken.

Lord Harris thought the Council ought to have an independent inspector.

### Warwickshire County Council Increase Inspectors' Salaries.

THE Sanitary Committee recommended to the Warwickshire County Council that the Inspectors of Weights and Measures, Messrs. Salmon and Bennett, should be required, in addition to their present duties, to act also as Inspectors under the Sale of Food and Drugs Acts, 1875 to 1899, and that an assistant inspector should be appointed at a salary of £125 per annum to assist Mr. Salmon, and, where required, also Mr. Bennett. Certain duties of taking samples for analysis had been satisfactorily carried out for seven years without any increase having been made in their salaries. Having regard to that, to the changes that would take place if the above recommendations were adopted, and to the travelling expenses of the assistant to be paid by Mr. Salmon, the Committee recommended:—That in view of their duties and expenses as Inspectors under the Sale of Food and Drugs Acts, the salaries of the Inspectors be increased, Mr. Salmon from £400 to £500, the increase being £38 for extra services and £62 for travelling and other expenses of his assistant, and Mr. Bennett from £312 to £350, the increase being £38 for extra services, both increases to take effect as from the 1st of January, 1900, Mr. Salmon undertaking to obtain the necessary assistance to carry out the Act in his district until the new assistant can be appointed.

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### Nottingham County Council and the Food and Drugs Acts.

GENERAL WARRAND in moving the adoption of the report of the Food and Drugs, Weights and Measures, and Explosive Act Committee, remarked that he hoped the inspectors would be better supported by the magistrates, and that heavier fines would be inflicted upon offenders in the future.

The committee had had before them the report of the Chief Inspector of Weights and Measures upon the inspection and stamping of weights and measures, and the administration of the Food and Drugs and Explosives Acts in the county during the past quarter. During that period, the inspectors had stamped 597 weighing instruments, 3,838 weights, and 572 measures, and had adjusted 1,311 weights and measures. They had received £26 8s. 1½d. for stamping, and £1 10s. 10½d. for adjusting, making a total of £36 19s., as against £40 3s. 3d. for the corresponding quarter last year. The County Analyst had reported that during the past quarter he had analysed 53 samples under the Food and Drugs Act. The samples were as follows: Spirits 17 samples, butter 11, milk 9, cheese 4, pepper 3, sweet spirits of nitre 3, ground ginger 2, coffee 1, milk of sulphur 1, camphorated oil 1, yeast 1—total 53. The sample of spirits contained more water than was allowed by the Act, but the excess was inconsiderable, viz.:—3.2, 3.6, and 8.3 per cent. respectively. The adulterated butter did not contain any butter at all, but consisted wholly of margarine. The sample of milk contained 15 per cent. of added water. The sample of sweet spirits of nitre was only two-fifths the strength prescribed by the British Pharmacopœia, and the sample of yeast was a mixture of 75 parts of pressed yeast, and 25 parts of potato starch. Of the 53 samples analysed, seven, or 13.2 per cent. were therefore adulterated, in respect of which five convictions were obtained, and one case has yet to be heard. The attention of the committee had been called to the small fines frequently imposed by the Bench for offences against the Food and Drugs Act. In the milk case referred to, where 15 per cent. of water was added, the vendor was fined only 1s. and costs. The committee reported to the Council at their last meeting that they purposed preparing a handbill setting forth the provisions of the recent Sale of Food and Drugs Act as to the sale of milk. This handbill has been prepared, and circulated throughout the county.



# Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 67.)

In other words, it goes to the very hottest places?—Yes; some of the large steamship companies take enough of our bacon out to last them on the return voyage.

Would they keep it in a refrigerator?—I think they would keep it in a cool chamber.

Is the bacon which is exported in the ordinary way of trade to these hot climates kept under any special conditions?—We put on the cases "Stow away from the boilers." But a good many private yacht owners take bacon out to the Mediterranean to last some months.

You have had no complaints of the keeping character of the bacon under those conditions?—No.

We were informed that the French have recently relaxed their conditions with respect to the presence of borax in bacon. Is that a fact?—I think not; I think that is a misunderstanding in some way.

What is your reason for saying that?—They are very particular. We have a big trade with Paris, and our customers are very careful to order it free from borax. I was in Paris a little while ago, and I heard from a good authority there, and also from a good authority in London, that if bacon had been passed with borax in it, it was owing to laxity on the part of the officials at the Custom House. Within the last ten days I believe there have been two to three thousand boracised hams sent back to England.

You know of no general order relaxing the conditions as to the presence of borax in imported bacon?—On the other hand, I believe they are getting more strict, from information I have had given me.

The demand for mild-cured bacon is not contemporaneous with the rise of borax preservatives?—By no means. It was at least twenty years ago that mild-cured bacon first came to be cured owing to the introduction of improved methods. The old practice used to be to kill in the winter and cure for consumption in the summer. Then it was hard salted. Now, owing to improvements in ice house cellars and the introduction of refrigerating machinery whereby the cellars are kept at an equal temperature, curing is carried on as easily in the summer as in the winter, and bacon is so made mild-cured. The Americans claim it as their idea to have mild-cured bacon, but that is altogether a wrong idea.

If it were represented to this Committee that the introduction of boracised bacon is caused by virtue of its mildness and the demand for such mild-cured bacon, that would not be a correct representation of the fact?—Certainly not.

It has been alleged that borax in bacon and also in dairy products can be detected by its aroma. Is there any truth in that statement?—It must be very, very strong indeed; very much impregnated with borax, if it could be so detected.

The borax has no aroma itself?—No.

Dr. Bulstrode: The chief object of your evidence is to show that mild-cured bacon can be produced and exported without the aid of borax?—Yes.

And you are able to export large quantities to any distance without the use of borax?—Yes. The difference is that the American bacon comes over here in a green state, and ours goes abroad dry, fit for the shopkeeper to sell. The American bacon comes here and has to be washed by the whole-sale house and dried by them before the shopkeeper can buy it.

Is it milder than yours?—I think ours is quite as mild as the Canadian.

With regard to the withdrawal of the order prohibiting boracised bacon in France, you know that when the order was first enacted its operation was suspended for some time?—No, I did not know it.

Could you give the Committee any idea as to the proportion of home-cured bacon in this country prepared with that imported from abroad?—I could not; a very small proportion is cured in this country.

The vast majority which comes to this country is packed in borax?—Yes; the Irish bacon makes the highest price. The greatest proportion of American bacon goes into the poor districts.

By the experiments one could not definitely say that the borax penetrated to the bone?—It did, undoubtedly, because the sample analysed was taken out in the shape of a cube.

The different parts of the cube were not examined separately?—The analyst says that in the piece of meat touching the bone there was borax.

Dr. Tunncliffe: What do you think would be the effect in the price of bacon if preservatives were prohibited?—Do you mean the price of American?

The prices of all kinds?—I could not say. The American bacon would undoubtedly have to be made a trifle saltier, but I do not think that that would add anything to the price. If borax were prohibited, I see no reason at all why bacon should not be put into a refrigerating chamber the same as fresh meat which is brought over in large quantities. It does not add to the price of that.

Do you think that the addition of borax as we know it is added is the cheapest way of getting green bacon over from America?—Undoubtedly.

Therefore the presumption is that if borax were prohibited the bacon would be dearer?—Owing to the most costly system of carriage?

Yes?—Very possibly.

Do you think at the present time the American bacon brought over in this way competes with English bacon?—It does to a certain extent, because it is sold so very much cheaper. If the wholesale houses asked the same price for Canadian and American bacon as for English bacon there would not be much Canadian or American bacon sold.

Do you think any possible injustice which might be done to the English bacon trade at the present time by the use of borax would be met by its being declared?—I think if borax is used it should be declared.

It would do away with any possible injustice which might be done?—Yes; I think it would.

Professor Thorpe: Would there be any serious trade objections if the bacon of Canada and the States were smoked before it was brought over here?—It would not travel so well. It would not look so well on arrival here.

As it would be green and covered with borax?—Yes, and smoked here.

By Dr. Tunncliffe: Have you ever heard of the substance called "Smokine"?—Yes; but it is not used by the best curers.

## DR. BLAXALL'S EVIDENCE.

Dr. Blaxall, Westminster Hospital School, had undertaken experiments dealing with the bacteriological action of preservatives used in food. He added one in 500 formalin to milk, and kept it seven months. That quantity of formalin in milk absolutely destroyed all germs. Boracic acid was much less powerful as a germ destroyer, and salicylic acid still less powerful.

By Professor Thorpe: He did not use the preservatives in the manner they would be used commercially, but solely from a scientific point of view, and he had no knowledge of the ordinary practice of adding preservatives. There was no doubt that the quantity of formalin necessary to kill organisms would render milk unsaleable.

## MR. CAMERON'S EVIDENCE.

Mr. Cameron, Produce Commissioner from the New Zealand Government, gave evidence with regard to New Zealand butter. The butter in New Zealand is generally made at dairy factories. There are central factories established throughout the country to which producers bring their milk, and the butter is, after making, inspected and graded by Government inspectors. The butter made by the producer is called milked butter, and is placed under a different head from the factory or creamery butter, which is the best butter. What is called milked butter is butter made by the farmers in little lots, and the grocers go round and supply goods to farmers, and take in exchange this butter. They bring it home, place it in their stores, and it is milked. That butter is not considered to be first-class butter. The butter taken in hand by the Government is a high-class butter compared with the other.

(To be continued next week.)



## Cold Storage Notes.

### Grocers' Associations and the Use of Preservatives and Cold Storage.

At a meeting of Grocers' Federation at Birmingham, on January 31st, the chairman Mr. Shirley said: "They were interested in the departmental enquiry with reference to preservatives. If preservatives were shut out of the market and they were told that certain manufacturers could prepare goods without such things, would they be turned back on the heavily-salted goods? One thing or other was necessary if they were to be able to keep goods a sufficiently long time after they had got into the hands of the retailer and consumer. If the goods were too mild they were in trouble, if they were too much salted they were in trouble, but a legitimate use of preservatives would save a large proportion of goods, and would therefore enhance the value of these goods. He was told that cold storage would do all that was required, that they need have no fear as to the non-use of preservatives; but cold storage would not meet the difficulty. If goods were kept in that way for any length of time the depreciation became considerable, and when they got to the light of day, or were exposed in shops lighted by gas, it became much more serious. In twenty-four hours the goods would show great depreciation, and by the time they got to the consumers they would be scarcely fit to be eaten. It was therefore important that they should not accept the statement that cold storage would get them out of the difficulty. Subsequently the Birmingham Association, in a resolution, called attention to the evidence given before the Departmental Committee to the effect that cold storage would be an adequate substitute for boracic acid as a preservative, and requested the federation to collect evidence to prove the fallacy of such a theory, and also 'the injurious effects to

the trade and the public consequent upon the adoption of such a principle.' Mr. Bolton, who moved the proposition, stated that if the use of preservatives were abolished, and the grocer had to fall back on cold storage, the result would be disastrous. The public taste demanded mild-cured goods, such as could be secured by means of preservatives, and salted goods would not be liked. From the grocer's point of view the use of preservatives had greatly reduced the loss on bacon and ham. Mr. J. Kellitt (Liverpool) seconded the proposition. Mr. C. A. Jump (Manchester) thought it was not for them to say whether the use of boracic acid was good or bad. That should be left to the scientific experts. Personally he believed that a small proportion was not injurious, but he reminded the members of the committee that the acid was used as a preservative in so many things that repeated small doses taken during the day might amount to an injurious quantity. Mr. Jarvis said that what the trade really wanted was a pronouncement as to what percentage of preservative might be used. Mr. Bolton, in reply, said it was a misrepresentation to say that cold storage would be a good substitute for boracic acid. The proposition was carried *nem. con.*"

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### Cold Storage in Manchester.

THE cold air stores of the Manchester Corporation have hitherto afforded accommodation for the storage of any surplus, but these have been supplemented by the erection of new cold air stores at Weaste by the Colonial Consignment and Distributing Company which are capable of dealing with 150,000 carcasses, besides produce which may have to be stored so as to prevent a glut in the market at any time.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

In the Queen's Bench Division, on February 8th, before Mr. Justice Channell and Mr. Justice Bucknill.

BEARDSLEY V. WALTON AND CO.

THIS was an appeal by case stated from justices of Wiltshire. An information was laid by the appellant against the respondents charging them with selling to the prejudice of the purchaser a drug—to wit, camphorated oil—which was not of the nature, substance, and quality demanded by the purchaser, the said camphorated oil only containing eight parts per cent. by weight of camphor, or less than half the quantity of camphor proper to camphorated oil as described in the British Pharmacopœia, contrary to section 6 of the Sale of Food and Drugs Act, 1875. The justices dismissed the information on the ground that the camphorated oil was a compounded drug, and that consequently the summons could only be issued under section 7 of the Act. Section 6 of the Act provides as follows:—"No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser under a penalty not exceeding £20, provided that the offence shall not be deemed to be committed under this section in the following cases—that is to say . . . (3) Where the food or drug is compounded as in this Act mentioned." Section 7 is as follows:—"No person shall sell any compound article of food or compounded drug which is not composed of ingredients in accordance with the demand of the purchaser under a penalty not exceeding £20."

Mr. F. R. Radcliffe, for the appellant, contended that camphorated oil was not a compounded drug, because the oil was only a vehicle to enable the camphor to be applied. He also contended that sub-section 3 of section 6 did not prevent section 6 applying in the case of compounded drugs sold to the prejudice of the purchaser. He cited "White v. Bywater" (19 Q.B.D., 582) and "Houghton v. Taplin" (13 The Times Law Reports, 386). Mr. Bruce Williamson, for the respondent, contended that the effect of sub-section 3 was to take offences in regard to compounded drugs out of section 6 and to bring them under section 7. The Court on Wednesday allowed the appeal. Mr. Justice Channell said that the difficulty of the case arose from the use by the justices of the word "consequently." If they had said that camphorated oil was a drug compounded as in this Act mentioned, then the consequence might have followed. The only possible explanation of the words "as in this Act mentioned" was that there was in the Bill a clause dealing with compounded drugs which was afterwards struck out. Their Lordships were not entitled to know that that was the case, but they were entitled to assume so from the language as it stood. The only section in the Act which it could be read as referring to was section 7, which did not in language correspond with it, but did deal with compounded drugs. If so, it must mean that nothing should be an offence under section 6 with reference to compounded drugs unless it was also an offence under section 7. Whatever meaning sub-section 3 bore, this offence was equally within section 6. Mr. Justice Bucknill concurred.

EXTRAORDINARY APPEAL CASE—THE APPELLANT DEMANDS THE APPEARANCE OF A DEAD ANALYST.

At Belfast, James Barron, Mallusk, appealed against a decision of the magistrates in the Summons Court imposing upon him a penalty of £5 for having supplied to the Belfast Workhouse, adulterated sweetmilk, which he had contracted to supply pure.—Mr W. M. McGrath (instructed by Mr. Wm. Harper) appeared for the respondents, and Mr. J. M. Whitaker (instructed by Mr. Andrew McErlean) for the appellant.—J. C.



Neeson, clerk of the Union, produced contract between the Union and Barron, in which he agreed to supply pure sweetmilk.—Adam Weir, master of the Workhouse, stated that on the 7th November last, he had taken a sample of milk supplied by Barron. He divided the sample into three portions, one of which he forwarded to the city analyst, Dr. Hodges, another to Barron, he himself retaining one. Dr. Hodges gave witness a certificate showing the percentage of water in the milk.—Mr. Whitaker: I object to the certificate. I require the production of Dr. Hodges.—His Honour: Dr. Hodges is dead.—Mr. Whitaker: Just so; that is the course we have adopted. We require the production of the analyst; the analyst is dead, and therefore, according to section 21 of the Food and Drugs Act, the analyst's certificate is not admissible evidence.—Mr. McGrath said that certainly section 21 of the Food and Drugs Act, 1875, said that "the production of the certificate of the analysis shall be sufficient evidence as to the facts contained therein, unless the defendant shall require that the analyst shall be produced." This Act also made it admissible that the defendant and his wife should give evidence denying the accuracy of the statements in the certificates. The defendant had not done so. In the first hearing of the case before Mr. Hodder, in the police courts, the defendant had not called for the production, but Mr. Hodder had said that it would be impossible to go on with the case unless the analyst was produced. The case was then adjourned, and in the meantime, Professor Hodges died. Now, at the resumed hearing of the case, the defendant sprung this objection and required the production of the analyst, when he knew that he was dead. That showed that the defendant had not adopted this course from the first. Now, he (Mr. McGrath) held that according to common law a certificate made by any person acting in a professional or official capacity was, after the decease of that person, admissible as evidence. Therefore he held that as Professor Hodges had been acting in his official capacity, the certificate was admissible as evidence. It might not be sufficient evidence, but certainly it was admissible.—Mr. Whitaker said that section 21 of the Act of Parliament clearly stated that the certificate would be sufficient evidence only when the defendant did not require the production of the analyst. Now he, as representing Mr. Barron, had done everything that was required by the Act, and he thought it would be unfair if the fact of the other side being unable to fulfil a part of their duty should interfere with their case.—His Honour held that as the defendant had not originally adopted the course of calling for the production of the analyst, the only conclusion he could draw was that the appellant had been afraid to have Dr. Hodges called when he was alive; but when the analyst was dead the appellant called upon him, thereby thinking to stifle the whole prosecution. Again, the section made the evidence of the certificate liable to be destroyed by the production of evidence to the contrary. Barron had not produced any evidence to the contrary. In his opinion the certificate was binding. Dr. Biggar, Mr. McCormick, and other witnesses having been examined, Mr. Whitaker submitted that the evidence adduced was not sufficient. The section of the Act said "the certificate shall be sufficient unless the defendant required that the analyst should be produced." He called for the production of the analyst; the analyst could not be produced; therefore the evidence was not sufficient.—His Honour said that all the evidence was against the appellant, who neither produced any witnesses nor spoke in his own behalf. He would confirm the decision of the magistrates, with 40s. costs.

At Exeter Police Court, on February 10th, Louisa Goodridge, milk vendor, of Iron Bridge, Exeter, was summoned for having on the 28th December sold milk not of the substance and quality demanded, being adulterated by 15 parts of added water. Mr. G. R. Shorto (Town Clerk) prosecuted on behalf of the authorities, and Mr. W. L. Brown defended. Mr. Shorto said the milk was purchased by Inspector Wreford and dealt with in the usual form. The analysis of the milk by Mr. Moor showed that it was of the poorest quality, and had been adulterated with 15 parts of added water. It was but fair to the defendant to say that she gave the name of the person from whom she purchased the milk, Mr. Harvey, and the inspector found that milk which he was at the time delivering to the defendant was adulterated to an even larger extent. The certificate of the analyst was handed in, and Mr. Brown said that while it was no answer to the charge to say that defendant sold the milk as she bought it, yet he put it forward in mitigation of penalty. The Bench thought the defendant should have taken the precaution of taking a warranty from the seller, and then she would have been free. She would be fined 10s. and costs.—George Harvey, farmer, of Sowton, was then summoned for supplying milk adulterated with 224 parts of added water and the other 27-1. Mr. G. R. Shorto prosecuted, and Mr. Tarbet (Messrs. Friend, Beal and Tarbet) defended. Mr. Shorto explained that at about 7 15 a.m. on January 16th, inspector (Mr. Wreford) went to the shop of Mrs. Goodridge just at the time when Mr. Harvey's man was delivering the milk. Two samples were taken from the two cans, which were analysed by the City Analyst, and found adulterated as stated. Inspector Wreford, who purchased the milk, said it was raining at the time. Defendant denied any adulteration, and said the water could not get in his cans. Three of his cows had since run dry. His man, Charles Mutters, also denied adulteration. He believed the rain got into the cans. Cross-examined: He should not think seven quarts got into the cans that way. Fined £3 and costs.

MILK PROSECUTIONS.—SUING FOR DAMAGES.—Grocers and milk dealers will do well to note a case at the Birmingham County Court, on February 6th, before his Honour Sir Richard Harrington. Henry Jackson, grocer, of Fallows Road, Sparkbrook, sought to recover from George Orton, milk seller, of Shakespeare Street, Sparkhill, £50, which included 9d., the price of a gallon of milk so adulterated that plaintiff was fined 10s. and costs at the Birmingham Police Court on the 24th November last for having it in his shop, and the remaining amount damages for injury to his business in consequence of the conviction. Mr. Dorsett (instructed by Mr. Philip Baker) was for plaintiff, and explained that shortly after Mrs. Jackson had purchased the milk from defendant, Mr. H. I. Jones, inspector under the Food and Drugs Act, took a sample, which, on analysis, was found to be adulterated with 11 per cent. of water. The result was a conviction in the Police Court, and plaintiff's business had consequently suffered. Mrs. Jackson supported this statement, and Inspector Jones, the next witness, said when he boarded Orton's float on the day of the sale he found a pail, which defendant said contained nothing, in which there was a quantity of "coloured" water. Orton, who was not legally represented, then swore that the milk he sold to plaintiff was just as it was when he purchased it from a man named Bullivant. In reply to the Judge, he said he used the water found by the inspector for cleansing his measures. Mr. Dorsett: What was the water coloured with? Defendant: I couldn't say—(laughter). Mr. Dorsett: Was it coloured with anatto? Defendant: Yes. Mr. Dorsett: That is what they colour curtains with, I think—(laughter). Defendant repeated (and he was supported by his brother) that he sold the milk as he himself received it. His Honour observed that this was a case of very considerable importance to a large class of people, and traders would do well to realise that they were not only liable to prosecution but also to have a civil action brought against them for selling adulterated goods. Plaintiff, he pointed out to the jury, might be entitled to the 9d., paid for the milk, but he was doubtful whether Jackson could legally recover damages for injury to his business. The jury having elicited from Mrs. Jackson that they had not been convicted previously, awarded plaintiff the 9d. and £5 on the claim. His Honour said he should reserve judgment, but Mr. Dorsett said his client was willing to receive the amount specified by the jury. The Judge characterised the case as a wicked fraud, and said he thought it only right to order costs on the higher scale.

Asa Wass, milk dealer, Dewsbury Road, Leeds, was charged at the City Police Court, on February 6th, at the instance of Inspector Walker, with an offence under the Food and Drugs Act. Mr. C. C. Jolliffe, Deputy Town Clerk, prosecuted. The inspector had taken a sample of milk from the shop of Mrs. Brown, Bewerley Street. This was found to contain 11½ per cent. of added water. She stated that she had obtained the milk from Wass. The inspector accordingly proceeded to defendant's and took a sample of the milk he was supplying. That was found to have been adulterated to the same extent. On the same day Mr. Walker visited Wass's cow shed and took a sample of the milk as it was being given by the cows. This was of excellent quality. Defendant, who pleaded not guilty, ascribed the poor quality of the milk obtained at Mrs. Brown's to his having mixed milk procured from his brother's farm with that supplied by his own cows. He was fined £5. Mrs. Brown, who had also been summoned, was ordered to pay costs.

Isaac Gregg, of Green Street, Ponder's End, Enfield, was summoned for refusing to sell a sample of milk to Inspector Bridge. On December 20th last the Inspector saw the defendant at Enfield Wash and asked him for a pint of new milk. Defendant went to take it from one can, but the Inspector desired to receive it from another, from which defendant refused to serve him, although witness told him who he was. Defendant, "to clear his soul," gave evidence on his own behalf. In cross-examination, he admitted selling milk and water to the Inspector's assistant last May. He was fined £5 and costs; in default of distress six weeks' imprisonment.

Henry Field, of Bush Hill Park, was similarly summoned. Mr. Avery defended. On December 18th the Inspector asked him for a pint of new milk, and, on indicating which can he wanted it from, defendant replied that that was skimmed milk. The Inspector then asked for that, when defendant refused to serve it; but served him with new milk from another can, which had since been certified as unadulterated. Answering Mr. Avery, the Inspector said two months ago he summoned defendant for refusing to serve, but that case was dismissed. When first asked for the milk, defendant did not draw out a pint of milk from the can indicated, and afterwards pour it back. For the defence, Mr. Avery pointed out that the sample taken was analysed and found to be unadulterated; and urged that he made no evasion to serve milk at all. He (Mr. Avery) suggested that there was animus in this case because of the previous case. Defendant gave evidence on his own behalf, and, on being asked why he had two cans, began to explain, premising it with the supposition that the Bench knew that some preferred white, and others colored milk. The Chairman: We know nothing. Defendant: Oh, you know nothing; that's all right. (Laughter.) He alleged that he drew milk from the first can, as asked by the Inspector; and on his refusal to accept poured it back, and demanded to know what he did want. Fined £7 and costs, in default two months.



**BREWERS' BARRELS AS MEASURES.**—At Bradford West Riding Police Court, on February 9th, Messrs. Brear and Brown (Limited), of Hipperholme Brewery, were summoned under the Weights and Measures Act for using an unjust measure—to wit, a beer barrel, the same being unstamped. Mr. Wardle appeared for the West Riding County Council, who prosecuted, and Mr. J. R. Baird Jardine (Halifax) for the defendants. Mr. Wardle said the broad question was whether or not brewers were exempt from the provisions of the Act. If the Bench dismissed the summons they would give it as their opinion the brewing trade was exempt. On the other hand, if they held that the trade was not specially favoured they would be bound to convict. The defendants had followed the usual custom of the trade in filling direct from the vat, trusting that the barrel was sufficiently exact. The barrel in question was supplied to Mr. Thomas Irving, an off beer license holder at Shipley, being invoiced at its supposed contents, 37 gallons. On December 6th the local inspector of weights and measures tested the barrel, which was found to contain 1 gallon 6 pints 3 gills short of that quantity, representing a loss of about 3s. to the retailer. There were no precedents directly bearing on the case, and the prosecution did not allege intention to defraud. The Act, however, operated independent of any such intention. The case of *Harris v. the London County Council*, in respect of milk churns, could be construed as having a bearing on the case. In conclusion, he urged that if the defendants used the barrel as a measure, then it was a measure within the meaning of the Act, and consequently should have been stamped; secondly, if it was a measure, then its deficiency made it an unjust measure. In the course of his evidence, Mr. Irving stated that he ordered 36 gallons of beer. The cask he had received was, however, marked 37 gallons, and he was charged for that quantity. Inspector Duce said he tested the barrel by filling it with measured quantities of water. He had never known a barrel to be stamped, and was aware that such vessels had a fluctuating capacity. For the defence it was urged that all barrels were tested before being sent out, Mr. Jardine adding the opinion that the only materials of which measures mentioned in the Act could be made were of metal, glass, or similar unvarying material. There were six magistrates on the bench, and as the voting was equal, the Chairman intimated that the prosecution had failed. The Bench declined to state a case, and the Chairman advised that the only way to further test the question would be to bring forward another case.

The Warwickshire County Council has just considered this question and its conclusions are interesting. The report states:—

- 1.—“The Weights and Measures Act of 1878 does not prohibit sales otherwise than by weight or measure. What it does prohibit is sales by weight or measure otherwise than by Imperial weight or measure. It follows that the Act does not preclude a brewer from selling a hogshead, barrel, kilderkin, firkin, or bottle of beer (all of which we will refer to, for brevity, as a ‘barrel of beer’), as such, though the barrel, as indeed all vessels containing liquid, must, in a sense, measure it. The question is one of act—whether the barrel is used as a measure for measuring the quantity of beer sold, or whether it is a mere sale of a vessel containing beer, the contents of that vessel being approximately known. In the former case there is a breach of the Weights and Measures Act, and in the latter there is none. In our opinion it is not desirable that the Council should take any steps to test the capacity of beer barrels, and we recommend accordingly.
- 2.—“When this matter was under the consideration of the Council in the year 1895, the Board of Trade suggested that it was inadvisable to take action under the Weights and Measures Act, but that the Legislature had provided another remedy against brewers delivering short quantities of beer under the Merchandise Marks Act, 1887, which in the case of *Budd v. Lucas* (1891, L.R. 1, Q.B. Div. 413) has been proved to be an effective remedy. On our recommendation Minute 95 268 was then passed by the Council, which is in the following words:—‘That the Council do urge upon the Board of Trade to take steps to obtain such legislation as would enable the Inspectors of Weights and Measures to enforce and to prosecute under the Merchandise Marks Act, 1887.’ In reply to that minute the Board stated that the point raised relating to the verification of beer barrels would be noted for consideration whenever legislation on the subject might arise. We recommend that the attention of the Board of Trade be again drawn to this subject, and that they be again urged to consider whether it is not desirable to effect the change of the law above suggested without further delay.”

**BUTTER AND MARGARINE PROSECUTIONS. A WARRANTY FAILS.**—The question as to what is an adequate warranty came before Mr. Fenwick at the South Western Police Court, London, on February 7th, on the prosecution brought by the Battersea Vestry against Messrs. Pickard Bros., Falcon Road, Battersea. Mr. W. W. Young appeared for the Vestry, and Mr. F. W. Beck, the well-known solicitor expert in the Food and Drugs Act, for Messrs. Pickard. The hearing was an adjourned one, the facts being that an inspector, of the vestry purchased some butter, which on analysis was found to contain 12 per cent of margarine.

This analysis being disputed, the third sample was sent to Somerset House, where the official analyst certified that the adulteration was 10 per cent. Mr. Beck put in the defence that his clients had received a warranty, and he called witnesses to prove that Mr. Pickard ordered the butter from a traveller in the employ of Messrs. Courtenay & Co., of Waterford, and that before the butter was sent, that firm despatched an invoice which bore the words “guaranteed pure butter.” Mr. Young argued that such a warranty was not valid, as it was not given at the time of purchase. Mr. Fenwick, in giving his decision, said his view of the law with regard to a warranty was that it must be part of the original contract of purchase, and that as, in the present case, the order was given verbally to the traveller, it could not consequently be said that there was a written warranty at the time of purchase, and this in his opinion was a necessary condition. He therefore fined defendants £4 and costs £1 12s. 6d. Mr. F. W. Beck then applied for a case, upon the point of law. Mr. Fenwick said his view was so clear on the point that he should decline to state a case. Mr. Beck asked that Mr. Fenwick should give a formal finding as to the facts of the case, that was to say, that the butter was sold by the vendors in the same condition as they received it. Mr. Young agreed that there was *prima facie* evidence on that point, and Mr. Fenwick said he would find as a fact in the defendants' favour that they bought the butter as pure and sold it in the same condition as they received it, believing it to be pure. If it was desired to have a case for the High Court they must get a mandamus.

We trust that Messrs. Pickard, being thus grossly deceived and injured by the wholesale dealers, will bring them into court, and make them pay smartly for the trouble, loss and injury inflicted. In such cases as this every retailer's rule should be—sue the wholesale culprit, and thus compel fair dealing for the trade.

At Pentre-Rhondda, on January 20th, Edward Thomas, grocer, Pandy, was summoned for exposing margarine for sale without being labelled. Defendant, who said his assistant forgot to replace the label after cleaning the counter, was fined 10s. and costs.

At Wigan on February 5th, Patrick Casey, of 49, Darlington Street, Wigan, was summoned for selling adulterated butter, and also for not having margarine duly labelled either in bulk or when served to the customers. At the last hearing of the case Casey did not appear, and it was stated that the difficulty was to find proof that he really was the owner of the shop. The manager, named Nangle, said that Casey was the owner; but the prosecution, failing to get Casey, issued a warrant against Nangle to give evidence. Mr. Charnock, Town Clerk, said that the police had not been able to get any clue as to the whereabouts of Casey or Nangle, and he did not see how the case could be proceeded with. If either of the men were found the police would re-open the proceedings. The Bench left the matter in abeyance.

#### A BORACIC ACID CASE.

At Bangor Petty Sessions, on February 6th, Mary Roberts, Nantlle House, High Street, Bangor, was charged with selling butter containing boracic acid. David Griffith, inspector under the Carnarvon County Council, stated that in December last he visited Nantlle House and asked for a pound of Is. butter. Mr. W. F. Lowe, the County Analyst, Chester, certified that the butter contained 45 grains of boracic acid. Mr. Huw Rowland, for the defendant, alleged that the inspector was not capable of informing the bench whether boracic acid was injurious or not, and in answer to the chairman, the inspector said he had not consulted a medical man on the subject. The case was adjourned for a fortnight in order to bring forward medical testimony as to whether boracic acid is injurious or not.

This means another scientific wrangle, which will settle nothing. Why such prosecutions are brought whilst a scientific Government enquiry into the harmfulness of boracic acid is being held passes understanding. The Public Analyst, the Inspector and all concerned ought to know the hopelessness of getting any result from these cases of any benefit whatever to traders or the public. It is sheer waste of the ratepayers' money.

**UNJUST WEIGHTS AND SCALES.**—At Leeds, on February 8th, Thomas Walton, leather dealer, 2, Vulcan Street, off Benson Street, was fined £3 or a month for having in his possession for use for trade a scale which was 3½ ozs. against the purchaser, and eleven unjust weights, the total deficiency being 3 lb. 6 oz. For having ten unstamped weights and an unstamped weighing instrument, defendant was fined 20s. or seven days on each charge, the total monetary penalty against the defendant thus being £5. For having seven unjust weights in his possession, David Bowman, grocer, 71, Byron Street, off North Street, was fined 10s. and costs, and James Dixon, coal hawker, 28, Allan Street, Stoney Rock, for having in his possession for use for trade a beam scale which was 1 lb. 10z. against the purchaser, was fined 20s. or 14 days. Mr. A. H. Rutherford, chief inspector of weights and measures, Leeds, prosecuted, and Mr. T. G. Roberts proved the cases.



James Harper, 595, Cathcart Road, Glasgow, and who is in charge of a parcel-receiving office, occupied by the Caledonian Railway Company, at 45, Argyle Street, was fined a guinea for having on the premises a compound lever weighing machine of 1 cwt. lifting capacity which was false or unjust to the sender. The charge set forth that any commodity weighing 7 lbs. would be represented by the machine as weighing 7 lbs. 7 oz., while commodity weighing 14 lbs. would be represented as weighing 15 lbs. 10 oz. On the full cwt. the excess was 2½ lbs.

**UNSOUND FOOD PROSECUTIONS.**—At Clerkenwell Police Court, Ebenezer Durnoan, grocer, of 102, Whitecross Street, St. Luke's, was summoned, at the instance of the St. Luke's Vestry, for having, on the 9th January, deposited for the purposes of sale 135 tins of salmon, 211 tins of condensed milk, 235 tins of sardines, 15 tins of corned beef, 3 jars of pickles, 5-lb. of figs, 78½-lb. of dates, and 14½-lb. of prunes, which were unsound and unfit for human consumption. Mr. Bale prosecuted for the Vestry, and Mr. Cowdell defended. Sanitary Inspector Adams proved seizing the goods in the defendant's storage cellar. Defendant at first denied having any "blown" tins of salmon or milk upon the premises; but when they were discovered by the officer, said he had overlooked them. He added, "I buy them for what they are worth, and label them myself." He refused to give the name of the firm from whom he purchased them, and said he had not finished sorting them over. All the tinned food stuffs witness seized were "blown," and for the most part unlabelled, but lacquered over. Witness searched about and found other articles mentioned, after the defendant had again denied having any other bad stuff upon the premises. The dates and figs were mouldy. The corned beef and pickles defendant himself produced. Of 210 tins of salmon seized, 135 were condemned by Dr. Yarrow, medical officer, as containing fish in a decomposing condition. Defendant traded as Wale and Co. Cross-examined: When questioned, defendant only admitted having nine "blown" tins of salmon in his possession. Mr. Cowdell, for the defence, admitted that the articles seized were unwholesome, and said the stuff was a collection left on the premises when the defendant bought the business nine months ago. His assistant had neglected to clear the premises out properly. The milk was bought off a broker, and defendant had to risk some of the tins having bad contents. It was for him to sort them out. Defendant gave evidence in support of this statement, and also called one of his assistants. Mr. Bros said the salmon in question was absolutely poisonous, and imposed a penalty of £50, or three months in default.

#### CHARGE AGAINST A WEST BROMWICH BUTCHER.—STRANGE PROCEEDINGS.

At West Bromwich, on February 5th, Edward Bedworth, butcher, of High Street, West Bromwich, was summoned, at the instance of the West Bromwich Corporation, for having in his possession, a quantity of unsound meat on November 28th. Mr. A. A. Caddick prosecuted, and Mr. J. S. Sharpe defended. The evidence showed that the carcass of a boar pig was found at defendant's slaughterhouse by Mr. H. Spears, the sanitary inspector, who seized it and it was afterwards condemned as unfit for human food. For the defence, Mr. Sharpe said that two cabmen, during defendant's absence, deposited the carcass in the slaughterhouse. When defendant found it, he requested one of the cabmen to take it away, but although he promised to do so he failed, and it was seized by the inspector. The Stipendiary said it was an unfortunate thing that the proceedings were taken after the defendant's explanation contained in a letter. He dismissed the case, and allowed two guineas for costs in addition to the court fees.

**RUM PROSECUTION.**—ASTONISHING ANALYTICAL DIFFERENCES.—At the South Western Court, London, on February 8th, W. Maltby, landlord of the Victoria Tavern, Queen's Road, Battersea, was summoned by the Battersea Vestry for selling adulterated rum. Mr. W. W. Young appeared for the Vestry; and Mr. G. Elliott defended. The rum was bought by Inspector Cluter, an official employed by the Vestry, who took three samples. One he left with the publican, a second he sent to Mr. Cassall, the Vestry analyst, and the third was produced in court. According to Mr. Cassall's conclusions the rum was under proof to the extent of 34.57 per cent., and this was confirmed by the Government analyst at Somerset House, to whom the sample had also been submitted. For the defence Mr. Otto Hehner and Mr. Gordon Salomon were called. They proved having analysed the sample left with the publican, and found the rum to be only 23 per cent. under proof, being two degrees below the point allowed by the Act of Parliament. Mr. Young alleged that the defendant's analysts could not have tested the sample left by the inspector, or that the sample was tampered with before it reached their hands. The defendant's solicitor, however, swore that when he received the bottle from the defendant the seal was unbroken, and that he handed it in that condition to Mr. Salomon, while the latter gentleman declared that the seal had not been tampered with. In cross-examination he ridiculed the suggestion that the cork could have been drawn without the seal being broken. Mr. Young: I should think it would not be so very difficult to break the bottle at the neck, then push out the cork from underneath and place it in another bottle. As a matter of fact, though of course I don't say such a thing was done in this case, bottles have been tampered with in that way, and we prosecuted a man at this court for that offence. The magistrate said the circumstances of the case were

suspicious, but as there was a doubt defendant was entitled to the benefit of it, and he therefore dismissed the summons.

**WHISKY ADULTERATION.**—At Warrenpoint Petty Sessions, Sergeant M'Key, Inspector of Foods and Drugs, summoned Elizabeth Ward, licensed publican, The Square, for offering and exposing for sale whisky which was below the standard required by law. Mr. William Johnson defended. The complainant deposed that he purchased a sample of whisky from the defendant on the 18th December, and divided it as required into three parts—giving one part to the publican, keeping one himself, and sending one to the analyst. He had received a report from Sir Charles Cameron, which stated that the sample submitted was 50 degrees under proof and 25 degrees under the standard. It consisted of 66.67 parts of whisky, 25 degrees under proof, and 33.33 parts of water, equal to 100 parts. By Mr. Johnson—He had purchased several samples of whisky, and this was the only one not up to the standard. Mr. Johnson said he had advised the defendant that there was no legal defence to the case, and she therefore placed herself in the hands of the Court. She, like most other retail publicans in the town, purchased her whisky from wholesale houses. These wholesale houses generally sent the whisky out 18 or 19 degrees over proof, and before supplying to the consumer the whisky was generally adulterated from the state in which they received it by the application of a gallon of water to three of whisky. This brought the whisky to the strength as required by law—25 degrees under proof. They could sell it even lower than this if they labelled the bottles showing the strength of the whisky. Mrs. Ward was blending the whisky when the sergeant arrived and applied for a sample, and had not quite completed the work. The Chairman (to complainant)—Did she make any explanation to you when you purchased the whisky?—Sergeant M'Key—No; she asked had any person been complaining about the whisky. The Chairman said they would fine the defendant £1 and costs. There was a section of the Act which gave them power to endorse the licence, but they were not going to do that.

## Books Received.

"SHAW'S MANUAL OF THE VACCINATION LAW." Publishers, Shaw & Sons, Fetter Lane, London, E.C., 5/-.

In this book are the Vaccination Acts, 1867, 1871, 1874, and 1898; Vaccination Orders, 1898 and 1899, and the Instructional Circulars and Memoranda issued by the Local Government Board, with copious notes, explanations, and instructions. This is the seventh edition, entirely revised, and having added to it additional notes on administrative points which experience in the working of the Acts and regulations has brought to light.

All the Statute Law in force, all High Court decisions, a Table of Cases, and the Law Reports, wherein they may be found, an Historical Statement of the Law, the Principal Conclusions of the Royal Commission—in fact everything which those concerned with vaccination find it necessary to know or refer to is to be found in this handy manual, which also possesses a very full index.

"NUGÆ CANORÆ, OR EPITAPHIAN MEMENTOS IN STONE-CUTTERS VERSE OF THE MEDICI FAMILY OF MODERN TIMES," by Unus Quorum (William Wadd, Surgeon Extraordinary to George IV.); originally published in 1827. Re-issued 1899 by Holbrook & Sons, Limited, Portsmouth. Price, 3/6.

M. Wadd had a pawky humour, if one may judge of it by samples in the preface. Upon massage he said, "The obsolete practice of Greatraks has, in a degree, appeared again in the shape of *friction*, and has revived in full force the process of *thumbing* and *rubbing* as applied by certain adepts to distortions, who have not the same scrupulous difficulties that Greatraks had about the honorarium."

He says as much may be said of ablution as for exercise. "Dispel the ill-humours at the pores." "A dirty old hypochondrical woman attempted to drown herself; she was taken out of the water, underwent an active rubbing, and was not only restored to life, but to health: from which it was inferred that the *most melancholy part of her disease was owing to her want of cleanliness*." Mr. Wadd's book is an amusing collection of epitaphs of medical men. Of Sir Richard Jebb, Bart., M.D., he says he was very rough and harsh in manner. He said to a patient to



whom he had been very rude, "Sir, it is my way." Then, replied the patient, pointing to the door, "I beg you will make that your way." To a patient who wanted to know what he must not eat, Sir Richard replied, "My directions as to that point will be few and simple. You must not eat the poker, shovel, or tongs, for they are hard of digestion, nor the bellows, because they are windy; but anything else you please." His epitaph is:—

"When he wanted your money,  
Like sugar or honey,  
Sir Richard looked happy and placid.  
Having once touched the cash  
He was testy and rash,  
And his honey was turn'd to an acid."

Of the generous Dr. Lettsom, hero of the well-known lines:—

"When patients used to come to I,  
'Twas I physics and I sweats 'em.  
When after that they choose to die,  
It did not grieve—I Lettsom."

His benevolence was of the true Cheeryble sort, persons in Camberwell in trade being regularly supplied with cash if short in their means. Of a Scotch doctor M. Wadd gives the following:—

"Beneath these stones lie—bones.  
O Satan! if you take him,  
Appoint him doctor to your sons,  
And healthy de'ils he'll make 'em."

Very different in its "guid conceit of oursels" is the following:

"Here lies a stupid doctor's dust,  
A doctor known full well;  
How he on earth fulfilled his trust,  
Old Charon best can tell."

But in all Mr. Wadd's collection of laudatory, witty punning or caustic epitaphs there are no lines to surpass the following:—

They were brought by an aggrieved husband to the proprietor of a marble works to be inscribed on a tombstone. Needless to say, the epitaph was not cut in marble, but filed away as an object of curiosity, and as such is presented to our readers verbatim et literatim:

"The deth of Jane. Smith whife of John. Smith aged 36 years Whose life Was haisened a Way By dr. Scalpel on the 16th of feBuary 1882

With out one moments Warning  
With Cloriform and  
the Nife i lost my life  
and O my infant dauter  
Was made a slauter the  
SCull Been put a sunder"

Mr. Wadd's book is very interesting, as illustrating the foibles of some noted doctors of the old school.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### "Punch" and The Hospital for Sick Children.

"Punch" Office,  
10, Bouverie Street, E.C.,

February 14th, 1900.

Dear Sir,—We write to inform you that the Hospital for Sick Children, in Great Ormond Street, London, W.C., is badly in want of money, and that, unless a very considerable sum is shortly forthcoming, the Hospital must inevitably close its doors this year. We are making

an effort to enlist the sympathy and obtain the material assistance of all people who would regard as a calamity the closing of this, the oldest Children's Hospital in England. To this end we have in the current number of "Punch," published a special appeal, together with a reprint of a story by Mr. Anstey Guthrie, which appeared in our issue of January 31st last.

Under cover we have the pleasure of sending you a marked copy of the number containing the appeal, and we should esteem it a great favour if you will cause to be reprinted in your paper, if not the whole, at any rate a portion of this appeal, in order that the cause for which we are pleading may be brought before the notice of as many as possible.

We are, dear Sir,

Yours faithfully,

PHILIP L. AGNEW.

(For the Proprietors of "Punch.")

THE following are the facts on which Mr. Punch bases his appeal.

Here is the "Financial Statement" of this Hospital:—

Ordinary Expenditure ... ..	£16,000
Income ... ..	£9,000
Annual Deficit ... ..	£7,000

With this eloquent text before us, we cannot but call to mind the admirable advice given by Mr. Micawber to little David Copperfield, thus epigrammatically expressed: "Annual income twenty pounds, annual expenditure nineteen nineteen six, result happiness. Annual income, twenty pounds, annual expenditure twenty pounds ought and six, result misery."

This dictum of Mr. Micawber's, which is true as applied to the temporal difficulties of the individual who, if hale, hearty, and capable of work, has opportunities before him of retrieving the past and providing for the present and the future, applies with overwhelming force to the case of sick children dependent upon the generosity of friends, the watchful care of physicians, and the constant, kindly attention of trained nurses.

"The income which can be relied upon"—we quote from the report with which the Secretary has provided us—"is £9,000, made up by annual subscriptions, ordinary donations, Hospital Sunday and Saturday, and Prince of Wales's Funds, dividends from investments," and so forth. "The deficit of £7,000 per annum is usually met by spending all legacies received, say £5,000, and from proceeds of a dinner, say £2,000. The cost of running this Hospital we may put at £44 per diem, i.e., a daily deficit of £20. The legacies diminished last year, and this year nothing is expected from this source of income. It is hopeless in this war time to get money from a dinner." And he sums up by adding, sadly enough: "It seems, therefore, that we shall have to close the Hospital until funds come in again, for the combination of no legacies, plus this war, is too strong for us."

Be it remembered that this is the largest and oldest "Children's Hospital." It was founded in 1852, because there was no Children's Hospital in the Kingdom; and now, in London alone, there are fourteen Children's Hospitals. Shall the Mother of all these charitable establishments be allowed to starve because she has raised so many competitors for public support? And the response from the benevolent public comes back heartily and unitedly, "No! she shall not! Even in these trying times of war in the Transvaal and of famine in India, we will, all of us, in some way or other, according to the means at our disposal, by a little extra economy here, and some self-denial there, do our best to come to the immediate aid of this deserving charity in its present distress, while, for the future, we will try to insure ample means of existence to the Ormond Street Hospital for Sick Children."

N.B.—Donations, small or large—but the larger the better—in cash, in notes, in cheques, in postal and P.O. orders, will be thankfully received on behalf of the "Ormond Street Hospital Fund" by

Messrs. BRADBURY, AGNEW & Co.,  
10, Bouverie Street,  
Fleet Street, E.C.

P.S.—"Bis dat qui cito dat." "No time like the present," and no present so acceptable as the one arriving at the right time. Mr. Punch does not quote "Pay, pay, pay," but urges everybody, everywhere, to "Give! Give! Give!"



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## Food and Sanitation.

SATURDAY, FEBRUARY 24, 1900.

### Some Instructive Figures regarding Milk Adulteration.

In a Report of Public Health work in Islington, for the quarter ended December last, Dr. A. E. Harris, Medical Officer of Health shows how enormously adulteration increases on the Lord's day. Islington milk-vendors are not alone in this peculiar form of keeping holy the Sabbath day as in other towns and districts where Sunday samples have been taken, the same watery form of worship has been noticed. Dr. Harris caused some samples of milk to be taken at Finsbury Park Station on week days and on Sundays in the parish. The following are the results.

	No. Genuine taken	Adul- trated	Per- centage Adulter'd
Samples taken on Sundays	28	19	9 32.1
Samples taken on week-days	61	54	7 11.4
Samples taken at Finsbury Park Station ...	30	29	1 3.3

If others of our readers would take some Sunday samples they might perhaps find like curious Sunday observances.

Dr. Harris furnishes some other figures which whilst they relieve the cow of any suspicion of being a party to *aqua* worship on Sundays, offer a pretty problem for Somerset House, and the recently appointed Committee on Milk Standards to solve.

Dr. Harris says:—

"It will be noticed that the samples of milk procured in course of transit at Finsbury Park Railway Station, continue to be of a very much higher quality than the standard laid down by the Somerset House Analysts, who, it may be mentioned, have recently raised the standard for fat from 2.75 to 3.00 per cent.

Here are the figures:—

	No. of Samples.	Solids, not fat.	Fat.	Total Solids.
Milks procured in transit at Finsbury Park Station	30	9.00	4.49	13.49
Milks taken on Sundays	28	8.29	3.27	11.56
Milks taken on week-days	61	8.36	3.57	11.93
Somerset House Standard ...	—	8.50	3.00	11.50

We refrain from pointing the moral of these figures because we entertain a respect for Professor Thorpe which it was impossible to feel for his predecessors. Besides, the following circular he has issued is the most flattering tribute every paid to us:—

"In the early days of the working of the Food and Drugs Act, when it was necessary to have regard to the character of much of the milk supplied, which, although genuine, was, as regards its fat, of no very high quality, the 'standard' was fixed at 2.5 per cent. of fat.

"By the operation of the Food and Drugs Act, and the weeding out of certain classes of cows, there has been a gradual improvement in the general character of the milk supply of the country as was shown by the investigations undertaken by Dr. Bell, shortly before his resignation, and published as a Local Government Board paper.

"As a result of this enquiry, I raised the standard of fat in 1894, to 2.75 per cent.

"The causes above alluded to have continued to operate, as showed by the evidence taken by the Committee which more recently reported on the working of the Food and Drugs Act. In consequence of this, and in view of the fact that under the 4th Section of the new Act which comes into force on 1st January, 1900, a *presumption* of non-genuineness may be raised by the analyst should the amount of fat fall below a certain figure, whereas the onus of *proof* of the genuineness will fall upon the seller, I have felt justified in raising the limit to 3 per cent., and as you may have noticed, this number has been given in recent certificates.

"This limit is, however, not to be held to anticipate or pre-judge in any way the regulations as to standards which the Board of Agriculture may issue under the Section of the Act referred to.

G. E. THORPE.

Government Laboratory,  
"2nd November, 1899"



It is many years ago since we advocated the pole-axing of cows which yielded milk showing 2.75 or 3 per cent. of fat for the purpose of "weeding out certain classes of cows." Well, the 2.75 cow has gone never

more to disgrace her fellow bovines. We do not doubt that the 3 per cent. cow will follow her ere long as *station sampled milks have always shown percentages of fat akin to those noted above.*

## Dietetic and Hygienic Notes.

### Is the British Pharmacopœia a Standard under the Food and Drugs Act.

LAST week important prosecutions were instituted at Birmingham for seidnitz powders not prepared in accordance with the requirements of the British Pharmacopœia. We report these cases in our legal columns, and they are worth the attention of our readers as showing the absence of any doubts in the minds of the magistrates that the British Pharmacopœia is a standard under the Food and Drugs Act, notwithstanding Mr. Baggalay's belief to the contrary (see *Food and Sanitation*, January 6th, page 12, and February 3rd, page 51.) These Birmingham cases show conclusively how important it is to the public that the Pharmacopœia should be recognised as a standard.

One lot of the powders was bought under the title of of "Effervescent Tartrated Soda Powders," "prepared according to the British Pharmacopœia" and the other simply as "Seidnitz powders."

The two terms were considered synonymous and convictions were obtained accordingly. These cases are striking instances of what gross abuses might prevail in the drug trade if no authority existed to check them, and the High Court decision *White v. Bywater*, should be borne in mind whenever the authority of the British Pharmacopœia is contested in police courts.

\* \* \* \*

### Frozen Canned Eggs.

At last the canning of fresh eggs has been perfected. Tons of them says the *Daily Mail* are now being sold to confectioners, bakers, and restaurant-keepers in New York, and presently large quantities will be put upon English markets.

The whites and yokes are first separated, then they are put into cans; later on the cans are sealed, and, being frozen, will keep in a first rate condition till wanted.

By the utilisation of this simple process fresh eggs for pastry will be obtainable all the year round, and at cheap rates. The frozen canned eggs will be shipped to England in cases, in the same way as other tinned goods.

\* \* \* \*

### The Bactericidal Action of Alcohol.

ONE of the more recent investigators into the question of the antiseptic properties of ethyl alcohol is Minervi, who has published the results of his researches in the *Corriere sanitario di Milano*. The conclusions reached by him are in accord with those of Epstein, and may be stated as follows:—(1) Ethyl alcohol has no pronounced bactericidal action when in a concentrated or highly diluted state. It is more active in dilutions of medium strength (50 to 70 per cent.), but while it is capable, under such conditions, of destroying micro-organisms at an ordinary temperature, it has no effect upon spores. (2) When diluted with water and boiled or superheated under pressure its bactericidal action depends upon the degree of dilution; that is, its activity is greater the more water is present. (3) Disinfectants act less energetically in alcoholic than in simple aqueous solutions, their effect being inversely proportionate to the amount of alcohol entering into the solution.

### Sugar as a Food.

ALPINE climbers appreciate sugar highly, and many of them who never eat candy at home dispose of notable quantities of it in the course of their excursions. The guides are very fond of it. This is because they believe the source of muscular force is not in nitro-genous or albuminous substances (lean meat), but in the carbohydrates (starch, sugar, and fats)

Experiments were made by Messrs Schumburg and Züntz, by invitation of the Prussian Ministry of War, with the aid of the dynamometric apparatus of Mosso, to find whether the absorption of small quantities of sugar can give new vigour to fatigued muscles.

The experimenters administered in one day, to persons who were not informed of the object of the test, a solution of 30 grams (about an ounce) of sugar, and the following day an equivalent dose of non-assimilable saccharin (oil-sugar). Previously these persons had been caused to do hard work on Mosso's apparatus. It was shown that with natural sugar (cane or beet sugar) the muscular work done was clearly superior to that obtained with saccharin.

\* \* \* \*

### Milk a Universal Antidote.

THE *Pharmaceutical Era*, according to the *Journal of the American Medical Association*, emphasizes the use of milk as a universal antidote applicable to most cases of poisoning. By its fatty matter and its casein it protects the mucous membrane against the corrosive action of acids, alkalies, and other caustic or irritant substances. The chemical rôle of casein is here very remarkable and very valuable. It is able to fill the double part of acid and of base, in the presence of compounds with which it is brought in contact. It not only coagulates under the action of acids, by combining with them, but it also yields a precipitate with most mineral bases, forming insoluble caseates. If precipitation does not immediately take place with a product having a given reaction—acid or basic—this precipitate will appeal through the intervention of another substance of contrary reaction. Dr. Crowzel proposes to add to the milk 5 per cent. of borate of soda. This salt is not toxic, and is employed because it precipitates as insolubles borates all the mineral bases, except harmless or slightly poisonous alkaline bases. The poison acids decompose it, seizing on the soda and setting free boric acid, which is less poisonous and less soluble. The mixture of borate of soda and milk is an antidote at once neutralising and precipitant. It can be used especially with mineral poisons, although we must except cyanids, ferrocyanids, ferricyanids, chlorates, nitrates, arsenites, arseniates, and oxalates. Of these, the first three are precipitable by a mixture of ferrous and ferric sulphate, while chlorates and alkaline nitrates cannot be precipitated by any offensive reagent. Arsenites and alkaline arseniates can be eliminated by magnesia. In any case no risk is run, and good may be done by giving milk with borate of soda to one who is thought to have been poisoned. It is the first thing to be done after emptying the stomach. If arsenic is suspected, magnesia should be given. If there are vegetable poisons, the best antidote is a 1 per cent. solution of permanganate of potash, which is harmless in this degree of dilution, and is easily obtained.



### The Medical Press Attacks Frozen Meat.

In its last issue our contemporary publishes the following warning:—

#### "FROZEN MEAT.

"Cheap food is essential to the rapid growth of a nation.

Expansion, however, may sometimes be paid for somewhat dearly by reason of unsuspected dangers that lurk in imported food stuffs. From this point of view a few words of caution may not be amiss upon the subject of frozen meat, which has of recent years been brought into the United Kingdom in such vast quantities as simply to revolutionise the conditions of our meat supply. There can be little doubt that cold storage lessens the flavour and nutritive value that is found in fresh meat, but the lessening is probably not sufficiently serious to detract from the value of frozen meat. A more important point is that beef, mutton, poultry, fish, and other animal food that has been frozen, as a rule is thereby rendered less digestible. Another point is that such food, when exposed and thawed is liable to rapid decomposition, and there can be no doubt whatever that a great many cases of ptomaine mischief are due to that fact."

Our contemporary, we suppose, must have had some special investigation made before stating that frozen meat is less digestible, has less flavour and is less nutritious than fresh meat—in fact we cannot suppose it would make such statements without ample proofs in its possession to warrant them.

In fairness to the many firms engaged in the business and the large amount of Colonial and English capital invested in cold storage of this meat the *Medical Press* ought to furnish proofs of its assertions. Perhaps our Colonial Agent General will ask our contemporary for its authorities and proofs.

### The Making of the Pate de Foie Gras.

A RECENT issue of *Food and Cookery* has an account of the process of manufacture of the *pâté de foie gras* at Strasburg, from which we learn that the livers used are those of the common goose, and that by a special method of feeding or stuffing they are often made to attain a weight of two pounds. As many as seven or eight hundred weight of them are required daily during the season. The livers must be absolutely fresh for use and the sorting is done with great care. When they reach the factory they are of a pinkish-yellow colour. They are carefully cleaned, and from the receiving room they go to the preparing room, where the spicing and mixing with the *truffe de Périgord* takes place under the eye of the master of the factory himself. They are thence passed along to the bakery, where huge ovens receive by hundreds the brown and yellow jars filled with the foie gras. From the bakery they are taken to the cooling-rooms, where the final touches are given to the *pâtés* and the packing takes place.

It was in 1788 that Jean Pierre Clause, the famous *chef de cuisine* of the Marshal de Contades, the Governor of the then French province of Alsace, made the discovery that cold goose liver served in Madeira jelly was not to be despised, and that, enclosed in a crust with *truffe de Périgord*, it was an epicure. So highly was Clause's discovery prized, that his master kept the recipe a profound secret, and never omitted a dish at the dinners he gave to high dignitaries. Clause, after some years, left the service of the Governor and opened the establishment in the Meissengasse which soon became famous.

\* \* \* \*

#### Canned Foods.

A BILL has just been introduced in the New York Legislature providing that the year in which a can designed as a receptacle for foodstuffs has been made shall be impressed upon its bottom and sides.

## Cold Storage Notes.

### New System of Refrigeration—the Glyce.

(By Stephen H. Emmens, in the *New York Cold Storage*.)

THE demonstrated possibility of producing liquid air upon a commercial scale and at a low cost must inevitably bring about a great change in existing methods of refrigeration and ice production. It gives the cold storage engineer the command of cooling power in a much more concentrated form than heretofore has been the case. It also provides him with a means of reaching a very much lower temperature than is attainable with any other practically available substance. These are advantages that cannot be ignored and will not be neglected in so progressive an age as the present.

It may indeed be thought, at the first blush, that as extremely low temperatures are out of place in cold storage warehouses and refrigerating cars, and as in ice factories a temperature below, say 10 degrees Fahr., is rarely needed, no industrial use along such lines can be found for liquid air, which has a temperature of about 312 degrees below zero Fahr. If such were really the case, the subject of liquid air might well be dismissed from consideration by engineers engaged in practical refrigeration. But a further consideration shows that extreme forms of energy (both positive and negative) are the most advantageous starting points in physical work generally. High initial steam pressures, for example, have rendered possible the economy of modern steam engines. High initial voltages have led to the great efficiency of recent electrical apparatus. And

compressed air has of late years entered upon a vast field of utility, mainly because means have been devised of producing and storing it at high grades of pressure. Analogically, therefore, it would seem that high initial degrees of cold ought to entail great advances in the art of cooling.

These are the considerations that underlie what I have called the Glyce system of refrigeration. It has seemed to me that there is no magic in ice at 32 degrees Fahr., and that we are not compelled to employ frozen water at only one temperature. It was all very well to draw the line at a few degrees below the freezing point when we had no easily available or economical means of carrying the process any further; but why should we call a halt, now that such means have been placed within our reach? A ton of ice is usually reckoned as having a cooling power of 284,000 British thermal units; that is to say, it will absorb 284,000 unit in melting from a solid to a liquid state. But this is on the supposition that we employ the ice at an initial temperature of 32 degrees Fahr. If, however, the ice be at zero, to begin with, it will obviously possess a greater cooling power. Its specific heat being 0.5, one ton will absorb 1,000 units in rising 1 degree, and thus, by employing it at zero to begin with, we get an additional refrigerative capacity of 32,000 units, as compared with ordinary ice.

We need not, though, stop at zero. Let us plunge our ice into liquid air and thus reduce its temperature to 312 degrees below zero. This will give us an additional cooling power of 312,000 units; and the total frigorific value of a



ton of ice thus becomes 312,000 plus 32,000 plus 284,000, equal to 628,000 units. In other words, we shall have packed nearly  $2\frac{1}{4}$  tons of ice into one, so far as refrigeration is concerned, thereby effecting a proportionate saving in the cost of water, handling, storage, and transportation.

There are, however, some other aspects of the question to be faced before we can be sure of the practical desirability of manufacturing super-frozen ice for refrigeration purposes. We must know the cost of super-freezing, and we must consider the "shrinkage" arising from a heightened rate of heat absorption.

The heat of gastification of one pound of liquid air is 144 British thermal units; so that if we take the weight of a gallon of the substance as being 8-lb. and the specific heat of air at constant pressure as being 0.238, we find the cooling power of one gallon of liquid air in rising minus 322 degrees to plus 32 degrees Fahr., to be 1807 units in round figures. Hence in order to reduce one ton of ice from plus 32 degrees to minus 312 degrees we must employ 344,000 divided by 1807, equal to 190.3 gallons of liquid air, or, say 200 gallons, in order to make allowance for waste by evaporation. The cost of manufacturing liquid air on a large scale may be safely estimated at four-tenths of a cent. per gallon. Accordingly, one ton of ice may be super-frozen from plus 32 degrees to minus 312 degrees at an expense of 80 cents, and as this additional cooling power thus imparted is equivalent to nearly  $1\frac{1}{4}$  ton of ice, it is obtained at a cost corresponding to the manufacture of ice at 64 cents per ton. It would be quite feasible to reduce this latter figure to 50 cents by the adoption of certain practical expedients. We see, then, that so far as the cost of super-freezing is concerned no obstacle exists to the practical adoption of the process.

The "shrinkage" problem is not more formidable. It is true that super-frozen ice will absorb heat more rapidly than will ordinary ice; but the rate of cooling is capable of regulation by increasing or diminishing the volume of air circulating in contact with the refrigerating body, and by increasing or diminishing the heat insulation of the space to be cooled.

So far I have spoken merely of ice because this is the most familiar of all substances employed for cooling purposes, and I desired to show that it can still be used even though liquid air should be adopted as the basis of refrigeration. Those engineers, however, who are not afraid of being regarded as innovators, and who do not object to discard established usages in favour of improvements, will, I think, be disposed to adopt glyce in preference to ice.

Glyce is a name I give in general to any liquid having a freezing point considerably below that of water; but I apply it in particular to a compound fluid which can be

cheaply prepared in any desired quantity, and which is perfectly neutral and permanent. It has, moreover, a somewhat greater specific heat than ice, and can thus be charged, weight for weight, with a greater amount of cooling power. One ton of glyce is, in fact, the equivalent to about  $2\frac{1}{2}$  tons ordinary 32 degrees ice. It may be put up in hermetically closed tin cans of any desired shape, and these are placed in felt-lined wooden cases provided with handles for convenience in being moved. There is no waste of material, as in the case of ice, by the draining away of liquid or by breakage and chipping. A dry cold produced; and when a block of glyce is exhausted by the absorption of the full amount of heat it can contain, it is taken back to the factory and recharged with cold, the double transport thus entailed being less than the single transport of an equivalent quantity of ordinary ice, and the raw material being used in perpetuity over and over again.

The advantages of glyce for domestic refrigerators are manifest. Simplicity of construction; no damp air and sloppiness; no weighing, with consequent delay and loss; fewer men and horses for transportation and delivery. And if ice be required for the table it can be prepared simply and expeditiously by having a recess in one side of the block in which water can be frozen.

For car refrigeration the Glyce system is even still more useful. The practicability of giving any desired shape and size to the blocks and their freedom from external liquefaction are features which enable the cooling agent to be stowed in places now unutilised; and thereby the freight capacity of each car may be very greatly increased. At present six cars are employed to carry an amount of fruit which could be packed readily in five. By adopting the Glyce system the cost of the extra car may be saved.

\* \* \* \*

#### A New Method of Preserving Food.

A PATENT has been taken out by Mr. J. Mitchell, Barnsley, Ayr, Scotland, by which bacon, ham, cheese, sausages, etc., are preserved by means of a preservative skin or coating. The ham, etc., is encased in greaseproof paper, and is then enclosed in a thin netted cotton bag, which is fastened tightly around it. It is next immersed in a hot solution, prepared by mixing together melted gelatine, alum solution, and skim or butter milk, until all air bubbles disappear, when it is withdrawn, after some time again inserted, and finally dried in a current of hot air. A gloss is formed on the surface by treating it with a solution of milk casein in aqueous ammonia. In a modification, the ham is dipped into a mixture of gelatine, lactic-acid solution, or slightly soured whey, and alum solution.

## Notes for Dairymen.

### Milk Dealers and Railway Companies.

FOR some years it has been our duty to record from time to time in *Food and Sanitation* the results of the unjust, arbitrary and indefensible conduct of Railway Companies towards dairy farmers and milk vendors. For some inscrutable reason some jackass in office promulgated years ago the ordinance that dairy farmers consigning milk by rail must not lock the cans. The result has been that not only are the dealers in the milk systematically robbed, but they are prosecuted for adulteration, fined, and lose their reputations owing to this stupid regulation of the Railway Companies. Railway officials open the churns help themselves and make up the deficiency with water, and the milk reaches the wholesale or retail distributor

tampered with and adulterated. If the wholesale buyer has it analysed the result is a squabble with the farmer; if the retail distributor is met by the Food and Drugs Act Inspector whilst on his rounds and a sample be taken he is brought before the magistrates on a criminal charge, branded as a thief, fined and loses reputation and business. Lest this should be regarded as an exaggerated statement it may be well to illustrate how it happens.

At Marylebone, on February 14th, Fred. Spencer and Henry Lea, porters, in the employment of the Midland Railway Company, were charged with stealing five pints of milk. Mr. F. J. Griesbach, solicitor, stated, and called evidence to prove, that a number of churns of milk arrived from the country by railway on Tuesday night at the



Kentish Town Station. Shortly before four o'clock that (Wednesday) morning, Lea was seen to take three cans from the porters' room and fill them from the churns. He was in the act of drinking some of the milk when he was arrested by one of the company's police. Spencer was in Lea's company, and when charged admitted that he intended having some of the milk. Mr. Curtis-Bennett told the prisoners their conduct would cast suspicion on innocent people. He sentenced them each to six weeks' imprisonment.

We do not doubt that the Midland Railway Company congratulate themselves on having sent these young men to prison, but which is the more guilty, the company or the convicted young men? How many milk dealers have been disgraced and fined unjustly on account of this regulation of our railway companies which offers such direct temptation to theft?

We wonder if English dairy farmers and dairymen have sunk to be of such little account that our House of Commons has no one who will bring this scandal before the Minister of Agriculture and cause such exposure and pressure as will have this idiotic regulation against churns in transit being locked put an end to. It is probable that the regulation was framed in the first instance in order that the official responsible for it might get his milk cheap, but no doubt he is dead by now as all honest men earnestly hope he is, but dead or alive, we do not see that the reason which led to the regulation reflects any credit on any Railway Company now enforcing it.

\* \* \* \*

#### **Anxious to Summon one of His Milkmen.**

At Southwark, on February 14th, a dairyman, who

said he owned twenty milkshops, renewed to Mr. Cluer an application which he had made on Tuesday to Mr. Kennedy. He desired to have process issued against one of his milkmen, who, he alleged had maliciously watered his milk to the extent of 11 per cent. of added water.—Mr. Cluer: What evidence have you that he did it?—The Applicant: Only that I can prove I sent out pure rich milk, and that after it came into his possession it was watered. I have an analyst's certificate taken for me as a member of the Dairyman's Association.—Mr. Cluer; But the man might say that he left his can for a few minutes, and that the water was introduced in his absence. You have no proof that he did it.—The Applicant: It was done while he had charge of the milk. I am liable to be summoned by the vestry. Can't I have a summons for malicious damage?—Mr. Cluer: Not unless you have the necessary evidence.—The Applicant: Mr. Kennedy told me that I should consult a solicitor. I have seen Mr. Ricketts, solicitor to the association, and he advised me to apply for a summons under the Malicious Damage to Property Act.—Mr. Cluer refused to grant a summons in the absence of direct evidence.

This worthy dairyman appears to have gone to work upon the principle animating our Government of "muddling through it somehow." He may really have wanted to punish the milkman, in which case he should have communicated with the local Food and Drugs Act Inspector, and had a sample taken of the milk prior to being sent out, and another sample taken on the round. He would have found the Inspector only too willing to assist him in getting at the *real* offender, and he could make his mind easy about any trouble to himself.

## **Official Reports and Notes.**

### **The Oxford City Council and Prosecutions for Boracic Acid in Butter.**

At a meeting of the Oxford Council on February 7th, Mr. Twining strongly condemned the course which had been taken by the officers of the corporation in summoning Oxford grocers for selling butter adulterated with boracic acid. The grocers sold the butter innocently, believing it to be genuine. Mr. Zacharias mentioned that it was only decided by a majority of one to take proceedings, and he thought the matter ought to have been brought before the council.

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### **Adulteration in Glasgow.—Jam and Marmalade contain Glucose.**

DR. JOHN CLARK, one of the Glasgow analysts, reports that he analysed during the quarter, 2 samples of marmalade, which contained respectively 14 and 34 per cent. of starch glucose; 6 of strawberry jam, 2 of which were genuine, while the remaining 4 contained respectively 4, 7, 8 and 10 per cent. of starch glucose; and 4 of blackcurrant jam, 1 of which was genuine, while 3 contained respectively 7, 8 and 9 per cent. of starch glucose. Mr. R. R. Tatlock, the other city analyst, reports that he analysed one sample of blackcurrant jelly, which contained 8 per cent. of starch glucose; 3 of blackcurrant jam, which contained respectively 5, 4 and 6 per cent. of starch glucose; 1 of damson jam, which contained 13 per cent. of starch glucose; 3 of strawberry jam, which contained respectively 14, 11 and 33 per cent. of starch glucose; 2 of marmalade, which contained respectively 15 and 11 per cent. of starch glucose; and 3 of golden syrup, which contained respectively 70, 80 and 90 per cent. of starch glucose.

### **Islington and the Adulteration of Food.**

215 samples of food and drugs were procured under the Sale of Food and Drugs Act, 1875-79, and 9 under the Margarine Act during the quarter ended December, so that 224 were submitted to the Public Analyst. The samples included 119 milks, 16 spirits, 38 butters, 9 margarines. Altogether they were of 28 varieties, of which 18 were drugs.

Dr. Frank L. Teed, public Analyst, says:—Of these samples I have had to report against 30, giving a percentage of adulterated samples of 13.4.

The work of the last quarter has no special feature of interest and is a chronicle of the steady pressure being brought to bear by the Vestry on the vendors of food and drugs to compel them to vend their wares in accordance with the provisions of the Sale of Food and Drugs Acts.

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### **Cardiff Traders object to the Weights and Measures Inspectors' Report.**

A MEETING of the Cardiff County Council was held on February 12th, when the Town Clerk read a letter from Mr. Lewis, secretary to the Grocers' Association, with reference to Mr. Major's report on the subject of weights and measures. The Grocers' Association, who are joined by the Bakers and Butchers' Associations in this matter, asked that Mr. Major's report should be referred back to the committee, in order that a deputation from those bodies might have an opportunity of replying to it. Mr. Meyrick said there was no necessity for a friction between the corporation and a respectable body of tradesmen, and he moved that the report be referred back. After a discussion this was agreed to.



### The Adulteration Acts in Bradford.

MR. F. W. RICHARDSON, Bradford City Analyst, reports:—

As analyst under the Food and Drugs Act I have analysed during the past quarter 94 samples.

Of these 13 (or 14 per cent.) were adulterated and three were doubtful. Six samples reputed to be butter consisted entirely of margarine, and, in addition, one of these contained a  $22\frac{1}{2}$  grains of a preservative known as boric acid per pound. Two milks were deficient in cream and three other samples contained boric acid.

A golden syrup was found to consist of two parts of commercial glucose or starch sugar and one part of treacle.

Of the nineteen samples of drugs submitted five (or 26 per cent.) were adulterated or deficient in strength. Of these two were compound liquorice powders with an excess of sulphur and a corresponding deficiency of the more expensive constituents—liquorice, senna, &c. One was a "camphorated oil" with only one third the proper amount of camphor, and this was dissolved in mineral oil instead of in olive oil. Two sweet spirits of nitre were deficient in nitrous ether.

Brief summary of the annual report upon food and drugs for 1899. Samples analysed:—

Foods	...	...	...	...	281
Drugs	...	...	...	...	56
					337

Thirty-three different classes of food and drugs were examined, and of the drugs no less than 10 (or 22 per cent.) were adulterated or deficient in strength. Out of the total 337 samples, 33 (or ten per cent.) were adulterated.

### Food Adulteration in Bolton.

THE annual report of the Public Analyst (Mr. Walter Ratcliffe) shows that the number of food and liquid samples taken by the officials of the Sanitary Committee in 1899 was 170, of which 36 were found to be adulterated, including butter 20, milk 9, and whisky and gin 2 each. The fines for adulteration aggregated £161 2s. 6d., the largest amount recorded in Bolton.

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### Adulteration in Monmouth County.

THE County Analyst states that he received 77 samples for analysis during the three months ending December 31st last. There were 26 butters, 7 demerara sugars, 3 ground ginger, 2 camphorated oils, 2 coffees, and 1 each of margarine, preserved green peas, vinegar, arrowroot, sago, lard, saltpetre, balsam of aniseed, honey and apricot jam. He had great pleasure in again being able to comment favourably on the general quality of these samples, although in one or two instances the amount of adulteration was somewhat serious; but out of the 26 butters only one was suspicious of any admixture of foreign fat, and this only to a very slight degree; in fact, the possibility was in favour of its being genuine, but of low grade, and only two samples contained any boracic acid—one to a slight and the other to a serious extent; but in the latter case he understood the vendor was protected by an ample warranty. The actual amount present was 114.8 grains of the preservative to the pound of butter, which was a great excess over and above the necessary quantity; but to have proceeded against the real offender in the matter would have been a great undertaking, and perhaps it might be wiser in similar cases in future to await the result of the deliberations of the Select Committee now inquiring into the whole question of food preservatives. The percentage of adulteration for the quarter was 9.1 per cent., which was, he thought, satisfactory, as it compared favourably with similar counties.

## Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 79.)

Sir H. Maxwell: Is that exported in large quantities fresh?—No; not to any extent. It is treated with salt, and in many cases, although not in all, with preservative, as we call it.

What is the composition of that?—Boracic acid, I understand, principally.

Does any of the butter come absolutely fresh to this country? From my own experience I know that there has been a little sent in the last couple of years. In fact, last year they found that more was sent than the demand for fresh butter of that description warranted. But the bulk of New Zealand butter is sent over here treated with salt and a great deal with these preservatives.

How does it compare in price with Danish butter? It is cheaper than Danish butter. Danish butter is made and is in the market in a few days. New Zealand butter requires to be placed in cold storage and frozen during transit, and it is probably a couple of months before it is placed on the market here. The action of freezing also affects the butter.

Is it all frozen which comes here?—Yes; it is carried in refrigerating chambers, generally at a temperature of about 15 deg. Fahr., the same temperature as that in which frozen meat is brought over.

Then the salt which is used comes into play when the butter is taken out of the refrigerator?—The salt is put into the butter of course to act as a preservative, but the demand in this country is for a butter with a slight flavouring of salt, and naturally we are trying to hit the taste of the consumer.

Then what is the object of adding other preservatives?—The object of adding other preservatives is this: When New Zealand butter is frozen and is taken from the chamber here and put, as we call it, on the floor of the merchant's warehouse, and from there to the counter in the shop, the action of freezing causes it to depreciate more rapidly than if it were not frozen. The action of frost causes it to "go off," as they say, more rapidly; and the preservative has been found by tests made in New Zealand by the Agricultural Department of the Government to add to the keeping quality of the butter.

But you say it is not universal to use preservatives?—It is not universal, I understand.

Is the use increasing?—There has been a complaint about preservatives in this country. Objection has been taken to the use of them, and naturally they do not know what the result will be, and some in the colonies have been rather nervous about using preservatives in the face of that. But while the New Zealand Government is most anxious by the stringent measures they take and by their Act to have their butter exported only under pure conditions, it is found that the finest butter made in the colony and the butter which commands the best price in these markets is the butter treated with salt and preservative.

Your Government has undertaken some experiments?—Yes; the experiments were made by the Agricultural Department of the New Zealand Government with the object of ascertaining whether the use of preservatives was beneficial or not.



You mean effective?—Yes; in preserving the quality of the butter. They recognise, of course, that if preservatives were of no effect they should not be used.

Mr. Cameron described the experiments made. Six boxes of butter all from the same churning were selected, and treated with different percentages of salt and preservative. The butter was so treated at the factory by the manager, and each box was marked with a distinctive letter, and only the manager knew how the different lots of butter had been treated. The butter was then forwarded to the grading-room and examined. At first they could detect no appreciable difference in any of the butter, but it was then placed into the freezing chamber and kept at a temperature of 29 deg. Fahr. for about eleven weeks, which would be about the time it would take to get to England. It was afterwards taken out and left for ten days in a temperature ranging from 45 to 60 deg., which would be about the temperature obtaining in the shops in England. It was then re-examined, and final judgment passed upon it. The largest number of points was given to the box of butter treated with 3 per cent. of salt and  $\frac{1}{2}$  per cent. of preservative, and the second award to the butter treated with 2 per cent. of salt and 1 per cent. of preservative. The third award was given to the box of butter treated with 3 per cent. of salt and 1 per cent. of preservative. He thought that experiment proved that the use of preservative to a small extent—say  $\frac{1}{2}$  per cent.—was beneficial, and that it was unnecessary to use more than that amount. The experiment proved that 1 per cent. of preservative did not give as good a keeping quality as  $\frac{1}{2}$  per cent., and of course it was not the object of anyone to put more in than was absolutely necessary.

Some of the butters were only treated with salt. The judgment of the experts showed that the difference in the preservatives made the difference in the quality.

Sir H. Maxwell: Then  $\frac{1}{2}$  per cent. of preservatives is as effective as any larger quantity?—They consider it more so. These experiments were made by persons who really had a feeling that preservatives were perhaps unnecessary, and they would like if possible to prove that by doing away with preservatives they would be complying with the regulations of this country, and make as good a butter; but one Commissioner said, "These experiments, subject to confirmation, indicate that boracic acid has a certain value as a preservative for butter, and that 8 oz. per 100 lbs. is as efficacious as a larger proportion."

You said the preservative used consisted mainly of boracic acid. What other ingredients were used?—Boracic acid and borax are generally used.

What is the object of using a patent mixture when boracic acid could be used with the same effect?—Because it is made especially for application easily.

A solution?—No. it is like a very fine salt. Of course there has been a great deal of evidence given here with regard to the way preservatives are applied to milk. The application of preservatives to prepared foods is different. In applying it to butter we weigh the quantity of butter and the quantity of salt and the quantity of preservative. Generally the salt and the preservative are mixed together, and then it is worked into the butter equally.

(To be continued next week.)

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—Henry Bone, farmer, of Havant, was summoned at Portsmouth, on February 12th, for selling adulterated milk. Mr. G. H. King, prosecuted on behalf of the Urban Sanitary Authority, and Mr. F. G. Allen defended. Mr. F. L. Bell, Chief Sanitary Inspector, proved taking a sample of milk at the Railway Station from a churn consigned by the defendant to the Portsmouth Dairy Company. It was analysed by Dr. Fraser, Medical Officer of Health, whose certificate showed that the milk contained 20.5 per cent. of added water. In defence Mr. Bone said that he kept 32 cows, and had been trading in milk for eight years. He had never previously received a complaint with regard to the quality of the milk sent away from his farm. When this matter was brought to his notice he spoke to the cowman on the subject, and he denied having added water to the milk. However, the man had entire charge of the milk business, and he at once gave him notice to leave his situation. Mr. Allen pleaded for leniency, on the ground that the defendant was innocent of the act of his servant, but the Bench inflicted a fine of £7, including the costs.

At the Stratford Police Court, on February 10th, Frederick Bussinger, a milk dealer, of 23, North Street, Barking, was summoned for selling adulterated milk. Mr. E. H. Lister prosecuted for the Barking District Council. Frederick Martin, an inspector under the Food and Drugs Act, deposed to buying the milk. When he was served he was told "it has only just been brought in." The public analyst had certified the milk as adulterated with 26 per cent. of added water. The defendant said his manager sold the milk as he received it, and did not know it was adulterated. Mr. E. H. Lister: The district is a very poor one. Mr. Burnett Tarbum: Yes, it is the poor who have to suffer. The poor little babies are fed on this, and are the sufferers. I should like to send some of you gentlemen to jail and feed you on this "milk" for a month, to see how you would like it. You will pay £5, and 18s. costs, or a month. At the same Court, Joseph Fitzjohn, of Axe Street, Barking, was also summoned for selling adulterated milk. In this case there was 10 per cent. of added water, and 20 per cent. of the original fat had been extracted from it. Defendant, who pleaded guilty, said he sold the milk as received. Fined £5, and 18s. costs.

At Exeter Police Court, on February 1st, George Henry Davey, of Marsh Barton Farm, Newton St. Cyres, was summoned for selling milk on January 7th which was not of the nature, quality and substance demanded by the Sale of Foods and Drugs Act. Mr. Shorto (Town Clerk) prosecuted. He stated that defendant had been supplying milk to Mr. Yeo, dairyman, of Paris Street. Mr. Wreford, the Sanitary Inspector to the City Council, having received complaints regarding the milk, took samples from defendant's cans when delivering to Mr. Yeo. The analysis

proved one sample to have 17 parts in 100 of added water, and in the other 22.4 parts. Mr. Wreford, the Sanitary Inspector, stated that defendant told him that on the occasion on which he took samples he had added skimmed milk, but no water. Samples which were taken on subsequent days were of the right quality. Mr. W. L. Brown, for the defence, pleaded guilty, and said it was a sudden temptation on this occasion as there was not sufficient raw milk to supply the quantity required. But it was skimmed milk which was added, and not water. Alfred Bernard Yeo, dairyman, of Paris Street, was next summoned for selling scalded milk containing water to the extent of 40 parts in 100 on January 24th. Mr. Shorto said it was very satisfactory to note that last year 37 samples of milk were taken from various vendors, and there was not one case of adulteration. This year there had been already six samples found to be adulterated. This showed that the vigilance of the Inspector must in no way be relaxed. Mr. Wreford said it was in consequence of a voluntary complaint made by defendant, of the milk supplied by Davey that he (witness) tested the scalded milk supplied by defendant. Mr. Beal, for the defence, contended that the milk had been delivered to Mr. Davey when the sample was taken by Mr. Wreford. Defendant had had suspicions of Davey's milk, and had kept back his milk in consequence. But on being pressed by Davey to sell him a quantity, defendant let him have that which he (defendant) had scalded. Defendant said he noticed last June that the milk supplied by Davey was of poor quality, and he told Davey that he should speak to the Inspector about it. On the 24th January he received a quantity of raw milk from Davey, which he scalded and kept separate from milk he had received from other people. It was two quarts of that milk which he resold to Davey the next morning before the visit of the Inspector. Maud Westcott, assistant to Mr. Yeo, deposed to receiving Mr. Davey's milk which she scalded the same day. No water was added. Next morning Mr. Yeo let Mr. Davey have a quantity of the skimmed milk. A sample of the milk was afterwards taken by the Inspector. In cross-examination witness admitted that Mr. Yeo had told her that it was his scald milk. William Glass, lately in the employ of Mr. Davey, deposed to the practice of Mr. Davey of adding scald to raw milk. George Barner, in Mr. Yeo's employ, spoke to hearing Mr. Davey tell Mr. Yeo that he had put scald milk to the raw, but no water. After a consultation in private the Bench fined Davey 40s. and costs in each of his cases, and Yeo 40s. and costs in his case.

At Belfast on February 15th, before Mr. Nagle, R.M., and Mr. M'Lorinan, a case was heard against Robert Barron, of Ballypallady, Doagh, by the Belfast Poor-law Guardians for having sold to them new milk adulterated with water. Samuel Barron, of Ungall, Templepatrick, was also summoned for the same offence. Mr. W. M. McGarth (instructed by Mr. Wm. Harper) prosecuted, for the Guardians; Mr. G. Hill Smith (instructed by Mr. A. McErlean) appeared for Samuel Barron; and Mr. J. M. Whitaker (instructed by Mr. N. Turnbull) for Robert Barron. Mr. Smith, at the opening of the case, objected to the summons, which he held was bad, on the ground that it contained averments of a previous conviction, which was not permissible under any statute. Mr. McGarth replied that in the very section of the Act (1899) to which his friend had referred would be found his answer. That section contained a statement that the defendant, having been



previously convicted under the section, had now committed another offence against the same section, which rendered him liable to a penalty of £50. Section 19 of the Act provided that the summons should state particulars of the offences alleged. He alleged that the defendant, being a person previously convicted, sold "to the prejudice of the purchaser." Mr. Smith held that the Act of 1899 was not retrospective, and that this was therefore a new offence, and he would ask their worships to state a case if they had any doubt upon the matter. Mr. Whitaker stated that in the next case, in which he was engaged, the exact same point arose, and he would follow Mr. Smith's argument, but would wish to add nothing to it. Mr. Nagle said that to a certain extent it was the first case in his experience, but the opinion of the Court was that section 6 and section 17 should be taken together, and he was clearly of opinion that if the averment were left out and the magistrates convicted, imposing a penalty between £20 and £50, the decision would be quashed. He would, however, state a case at the request of Mr. Smith. Adam Weir, master of the Belfast Workhouse, was then called and sworn. He deposed that on the 11th ult. milk was delivered by the servant of the defendant, Samuel Barron. Witness took a sample of the milk, divided it into three portions, retained one, gave one to the defendant's servant, and sent the other to Sir Charles Cameron, public analyst, in a properly sealed and closed parcel. Witness afterwards received a certificate of analysis (produced), which showed that the sample was milk, to which at least 37.77 parts of water had been added as an adulterant, and contained only 9.4 partly of fatty substances. Mr. Smith said he was obliged to object to the manner in which the parcel had been forwarded, not having been registered, but the Bench overruled the objection. James C. Neeson, Clerk of Union, was examined, and gave evidence of having received from the defendant a tender in accordance with the conditions of the advertisement for milk contractor. Dr. E. C. Bigger deposed that he was a visiting medical officer of the Union. There were a number of patients under his care who were largely fed on milk. Milk adulterated with 37.77 of water would be highly injurious to the patients' health. Mr. Nagle said that on the facts the magistrates were satisfied as to the defendant's guilt, and, as he had been previously convicted, they would fine him £40 and costs. Mr. McGrath said the second case was very similar, but even more glaring, as 41.66 parts of water had been added to the milk. Mr. Weir was recalled, and gave evidence of the forwarding of a sample of the milk as in the previous case. The defendant had been previously fined in a sum of £20. Mr. Whitaker did not dispute the certificate, but it would be noticed that under the new Act a man was made criminally liable for the misdeeds of his servants. Under the statute it came to this that a man was at the mercy of his servants. His client was a large cattle dealer, and left the dairy entirely in the hands of the servants, and felt so strongly on the subject that he had made arrangements to have his dairy sold. Robert Barron here said that, as a large cattle-dealer, he had to travel about from place to place and had to leave his dairy in the hands of his servants. Owing to the trouble he had taken steps to have his dairy sold at the termination of his contract. A few days after the service of the summons the driver disappeared. Wages were due to that servant for which he had not called. To Mr. McGrath: He did not think that Professor Hodges was the only analyst who could analyse his milk. The Bench fined defendant £40 and costs. Mr. McLorinan suggested that the vessels containing the milk should be sealed by the vendor at the dairy, and the seals taken off by the Master at the Workhouse. Counsel for defendant made application to have cases stated on the legal points which had been raised and discussed.

At Blackburn, on February 15th, Thomas Jackson, farmer, Brookfoot Farm, Padiham, was summoned at the instance of the Corporation for consigning milk to the Cullow Park Dairy Company not of the quality contracted for. Mr. Carter represented the Corporation, and Mr. Read the defendant. It appeared that the Dairy Company had reason to complain of the milk consigned by the defendant, and through the firm an inspector of the Corporation took a sample at the railway station from the kit forwarded to Blackburn by the defendant. The analysis showed that 30 parts of water had been added to every 100 parts of milk. The analyst observed that the sample was unusually rich in cream. During the evidence it was stated that the Dairy Company had complained to the defendant about the quality of the milk and of it being short of measure. For the defence it was contended that if the milk had been tampered with it was after it got into the hands of the railway company. Replying to the Court, defendant said he did not receive letters from the Dairy Company in December, January, or this month, complaining of the quality of the milk. It was suggested by the Court that the case should be adjourned, in the interests of the parties, for the secretary of the Dairy Company to attend court. Mr. Read said if that were done he could not carry his case further, as his client would deny receiving the letters. He left the case in the hands of the Bench. The case was adjourned for a week.

At Thames Police Court, on February 15th, Samuel Bowman, of 110, Cable Street, St. George's, was summoned at the Thames Police Court for selling milk with 33 per cent. of the cream abstracted. It was stated that it was the first time Bowman had made a mistake, although previous samples had been taken. Mr. Dickinson fined the defendant 20s. and 20s. costs.

#### AN OFFENDER SENT TO PRISON.

At the Mansion House, London, on February 16th, Jenkins, a carman, formerly in the employment of the Express Dairy Supply Company (Limited), Museum Street, was summoned before the Lord Mayor, under the Malicious Damage Act, 1861, for wilfully damaging two gallons of milk, the property of his employers.—Mr. Ricketts, who prosecuted, said the company spared no trouble or expense to supply their customers with pure milk. The defendant had been in their employment as carman for about four months. It was his duty to convey churns of milk from Paddington Station to customers in the City. His wages were one guinea per week and commission. On the 9th inst., one of the company's inspectors met him in Lime Street, City, and proceeded to examine the churns he had in his van. Three of the churns the prisoner said were empty, but upon examining them the inspector found about eight gallons of a fluid which looked liked milk. As a fact, the milk in the churns had been adulterated by the addition of 90 per cent. of water. The defendant said at first that rain had got into the churns, although it had not been raining at all that day, but afterwards he said he owed money and had himself added the water.—The defendant now said he had to pay for shortnesses owing to defective churns, but this was declared to be untrue, and the Lord Mayor said such a defence, unsupported by evidence, only aggravated the offence. The case was a serious one, and he sentenced the defendant to 14 days' hard labour.

#### HOW IS A MILKMAN TO PROTECT HIMSELF.

At Southwark, on February 13th, a dairyman complained to Mr. Kennedy that one of his milk-sellers had been watering the milk supplied to him for customers, and had thus put the applicant in jeopardy of a prosecution by the vestry for adulteration. Mr. Kennedy: That is very sad. What evidence have you got? The applicant: I have an analyst's certificate that the milk contained 11 per cent. of added water. It was pure rich milk when I sent it out. Mr. Kennedy: But have you anyone who saw him put the water in? The applicant: No. Mr. Kennedy: Then I don't see how you are going to prove your case. The applicant: You see, sir, I am in this quandary, that the Vestry may prosecute me for what he has done. I am a member of the Dairyman's Association, and we do our best to avoid getting into trouble. Mr. Kennedy: Quite right, but as the matter stands I don't know how I can help you. The applicant: Can't I have a summons against the man for adulterating my milk? The Chief Clerk: Not under the Food and Drugs Act, I think. You might proceed against him for wilful damage. After some further conversation, the applicant was advised to consult a solicitor.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Lambeth, on February 15th, Frederick Barker, of East Dulwich Grove, was summoned by the Camberwell Vestry for selling butter not of the nature, substance, and quality of the article demanded by the purchaser. There was a second summons against the defendant under the Margarine Act, for serving margarine otherwise than in a properly stamped wrapper. Mr. G. W. Marsden, solicitor to the vestry, appeared in support of the summonses. Inspector Groom, an officer of the vestry, caused a sample of butter, which was sold at the rate of 1s. 2d., to be purchased at the defendant's shop. The article was served in an unstamped wrapper. The sample was submitted to the public analyst, who certified it to contain 64 per cent. of margarine. The defendant said he had been in the shop for 15 years, and during that time had had 33 samples taken, but had never before been complained of. He had a guarantee with his butter. Mr. Francis ordered the defendant to pay a fine of £3 and 10s. 6d. costs.

We suppose Mr. Barker will prosecute the wholesale dealer who robbed him by selling at butter price a substitute of only two thirds the value. Mr. Barker should also claim damages for the injury done to his reputation and business. In the interests of the retailers themselves no mercy should be shown to the wholesale houses who practice these frauds and make retailers and the public their victims.

At Lambeth, on February 16th, several Walworth tradesmen were summoned by Inspector Dawson, on behalf of the Newington Vestry, for selling butter not of the nature, substance and quality demanded by the purchaser. In the first case the defendant was Frederick Parker, of Henshaw Street, who was alleged to have sold as butter an article which proved on analysis to contain 9) per cent. of margarine. The defendant, who said he did not thoroughly understand the business, and made a mistake, was fined £3 and 14s. 6d. costs.—In the next case, David Price, of East Street, was fined £2 and 14s. 6d. costs for selling as butter a mixture containing 98 per cent. of margarine.—Henry Tite, of Deacon Street, was also summoned for selling as butter a mixture containing 98 per cent. of margarine.—The defendant, who pleaded that he was totally inexperienced in the business, was fined £3 and 14s. 6d. costs.—Henry Bartholomew, of East Street, was summoned for selling as butter a mixture containing 91 per cent. of margarine.—The defendant said he was very inexperienced in the business. He had only been in it two days when the sample was taken. Mr. Francis: It is a pity so many inexperienced people should go into this business I



should think. The defendant explained that the article sold was part of the stock of his predecessor. Mr. Francis: That makes it worse. You take over something you know nothing about, and then sell it as butter to anyone who comes into the shop. The defendant was ordered to pay a penalty of £5 and 14s. 6d. costs.

At Oxford on February 6th, Henry Cleaver, 81, Walton Street; Major Solloway, 127, Walton Street; and Alfred Maycock, 106, Walton Street, grocers and provision dealers, were summoned for having sold to Thomas J. Hull, on December 28th, butter which was adulterated with boracic acid, contrary to the Food and Drug Act. Dr. H. F. Galpin appeared for the prosecution, and defendants were represented by Mr. Frederick W. Beck. Dr. Galpin said he was in a difficulty owing to the absence of Mr. W. W. Fisher, the public analyst who was unfortunately detained at home by illness. The Inspector stated that the sample contained 16·3 per cent. of water and preservative to the amount of 1·2 per cent. of boracic acid, or 84 grains in a pound of butter. This quantity of boracic acid Mr. W. Fisher said, was an improper and excessive amount, and more than double the quantity commonly found when this preservative was employed. Dr. Winkfield, medical officer of health, Oxford, said he believed the amount of boracic acid found in this butter was improper. Boracic acid was a drug. For the defence Mr. Beck stated that the whole question was what amount of boracic acid should be used, and whether the preservative was injurious to health. In cases which had been heard eminent scientific men had been called for the prosecution, and they had said in this particular case they considered the quantity of preservative was too large and injurious to health, and was not necessary. On the other hand equally eminent and scientific men had said this preservative was not in any way injurious; the quantity was not only necessary, but beneficial. It was an unsatisfactory position from the point of view of the retailer, because he had no part in the addition of the boracic acid. It was rather a hardship to bring the defendants before the court when the question was before a Departmental Committee. It had become an academic one, and was being fought out before the Committee, which was going to make something like standard rules with regard to the subject. He suffered more than the prosecution from the absence of the public analyst, because he had intended to cross-examine Mr. Fisher on the evidence and the subject generally before the Departmental Committee with regard to boracic acid in milk and butter. The acid was used purely as a preservative. Traders were bound to get supplies of milk and butter from the Continent and the Colonies, and to bring these articles to England in a state fit for consumption the use of preservatives was necessary. Analysts and medical men throughout the country had admitted this and it was recognised by the Act of 1875. The magistrates retired, and upon their return the Mayor said the bench had listened to what the solicitor for the defence had had to say, but he regretted that in the absence of evidence they felt they had no alternative but to convict. Mr. Solloway would be fined £1 and £1 19s. 6d. costs, including the analyst's fee of 10s. 6d. Mr. Beck suggested that the fine and costs should be divided between the three defendants. Dr. Galpin agreed to this course if all the defendants were convicted. The Mayor said each defendant would be fined 10s. and £1 0s. 6d. costs. The certificate in Mr. Cleaver's case stated that the sample contained 16·7 per cent. of water and 1 per cent. of boracic acid, used as a preservative. Mr. Maycock's certificate stated that the sample contained 15·8 per cent. of water and 1 per cent. of boracic acid; or 70 grains in a pound of butter.

At Lambeth Police Court, on February 8th, Annie Edwards, of Evelina Road, Nunhead, S.E., was fined 20s. and costs for having exposed margarine for sale improperly labelled.—Harry Love, Kimberley Road, Nunhead, was fined 20s. and 19s. 6d. costs for two offences under the Act.—Mr. Hopkins dismissed some cases in which the vestry prosecuted traders who had served margarine in wrappers stamped with letters of less than the size prescribed by the new Act.

At the Blackburn Borough Police Court on February 15th, a firm trading under the name of Casey and Company, grocers and provision dealers, 4, Park Road, was summoned for selling to Catherine Rooney two pounds of butter which was not of the nature and quality demanded. Mr. Carter, on behalf of the Corporation, said the woman was sent by James Graham, inspector of foods and drugs, into the defendant Company's shop to purchase the butter, and when she was leaving the shop Graham asked her to return with him. She did so, and he placed the parcel of butter on the counter. The assistant behind the counter seized the parcel, but being warned by Graham what would happen, he released his hold. An analysis of the butter showed that it contained 7½ per cent. of water and upwards of 75 per cent. of fats other than butter. The full penalty for such an offence was £20, and he (Mr. Carter) was instructed to say it was one of the worst cases the Corporation had had to contend with. Mrs. Rooney stated that she asked for the best butter and paid 1s. 10d. for the two pounds supplied to her. The defence was that the assistant had omitted to label the product margarine. The Bench said that dealing with the case entirely on its own merits, and without reference to any other shops, they thought it was one which justified the full penalty. The defendant firm would have to pay £20 and costs, and also the advocate's fee.

#### BORACIC ACID IN BUTTER.—ACTION AGAINST A WHOLESALE FIRM.

At the St. Asaph County Court, on February 16th, before his Honour Sir Horatio Lloyd, Messrs. Roose and Company, grocers and provision dealers, Rhyl, sued Messrs. S. H. Perry and Company, Limited, Button Street, Liverpool, for recovery of £4 as damages for breach of warranty. Mr. F. J. Gamlin, (Rhyl) appeared for the plaintiffs, and Mr. Madden, instructed by Mr. Pride (Liverpool) represented the defendants. Mr. Gamlin stated that in September last the plaintiffs purchased five boxes of Irish butter from the defendants, and the boxes in which the butter was sent bore the words "Finest Irish Creamery Butter." The plaintiffs opened one or two packages and sold the contents. Soon afterwards Inspector Pearson visited the shop and purchased one pound of butter for analysis. After that customers complained of the quality of the butter, and he had it returned by people. The defendant's traveller called and the plaintiffs complained. The traveller then said that there was a mistake somewhere, and he told witness that he was to sell the butter at 1s. instead of 1s. 2d. per pound as originally intended, and promised to send on a credit note. That plaintiff never received, and he now claimed £1 8s. in respect of that. On October 9th plaintiffs were served with a summons, the police having received a certificate from the county analyst that the sample of butter taken contained 10 grains to the pound of boric acid. Plaintiffs had been summoned before the magistrates, but they produced an invoice from Messrs. Perry and Company, Limited, on which it was stated that the butter supplied was guaranteed pure, and the case was dismissed. Mr. Roose applied to the defendants for £4 damages, being £2 2s. for solicitor's costs, 10s. 6d. loss of time at police court, and £1 8s. loss on reduced price of butter. For the defence, Mr. Madden denied that the defendants had adulterated the butter in any way. They sold the butter in the same way as they received it from the Irish creameries, and had warranties as to its purity. It was necessary for the defendants to defend that case to clear themselves in the eyes of the commercial world. The defendants did not sell adulterated butter. It was well known that Irish creamery butter had to be preserved to meet the public taste, in place of the large quantity of salt that was once resorted to. If a conviction could be obtained in such a case as this, it might be said that there would be an end to the importation of Irish creamery butter preserved in a manner that was now recognised. The butter as supplied by the defendants was known in the trade as pure butter. Mr. S. H. Perry gave evidence that the butter was supplied to the plaintiffs in the same condition as received from Ireland. Mr. Edward Davies, analytical chemist, Liverpool, said he had examined the butter, and found that it contained about 12 grains to the pound of boric acid. So far as he knew, it was absolutely innocuous. It was used not for the purpose of adulteration but to render the butter less salty and to preserve it. He had never met with a case in which it was suggested that any injury had been done to a child or adult from the use of boric acid as used in the preservation of food. Strictly speaking, butter containing boric acid was not pure, but conventionally it was absolutely pure. His Honour said it was an important matter, and he would defer judgment.

At Lambeth, on February 9th, Albert Frederick Oliver, East Street, Walworth, S.E., was summoned for selling butter adulterated with 95 per cent. of margarine. Defendant said that a mistake was made in the serving of the article. Inspector Langstone mentioned that the defendant had only been in the shop, which was a small one, for a period of six weeks. Mr. Francis remarked that people who asked for butter did not want 95 per cent. of margarine, and ordered the defendant to pay a penalty of 20s. and costs.

At Norwich, on February 13th, Alexander C. Tanner, grocer, 94, St. George Street, was summoned. The inspector bought one pound of 1s. 4d., and defendant's wife said it was fresh day. Defendant said he had been thinking about getting a warranty, but did not know where he obtained it from. The analyst's certificate showed that the sample was margarine. It bore the mark of a swan. Defendant said he purchased the butter from a man at Shotesham. He had made inquiries, and after long searching had found where the man resided, and it was his intention that morning to apply to the magistrates for a summons against the man for selling the butter under false pretences. Mr. Worrall, deputy town clerk, informed the magistrates that he believed the defendant's statement to be true. The magistrates inflicted a fine of £1 and costs. They said defendant ought certainly to have bought the butter with a warranty. They were of opinion he had been "let in."—Emily Boyce, 41, Newmarket Street, was summoned at Norwich for selling adulterated butter. Mr. Worrall explained that the evidence was precisely the same in this case. Defendant said she was exceedingly sorry. She gave 1s. 2d. for the butter, and disposed of it to her customers for 1s. 4d. The magistrates imposed a fine of £1 and costs.

James Smith, Bridgton, was charged with selling margarine improperly labelled. The Inspector was served by the defendant's wife, and although there were printed wrappers hanging in the shop at the time, the margarine was supplied in a plain wrapper. Mr. Smith explained that he kept the margarine properly labelled and also wrapped it in properly printed papers. On this occasion his manager was out and his wife supplied the margarine. Lord



Hatherton, Chairman of the Bench, said an offence had been committed, but the bench exonerated defendant from blame. The fact that Mrs. Smith told the inspector at once that the substance was margarine showed that there was no attempt at fraud. Defendant would be fined 1s. and costs.

At Limerick, on February 2nd, Frederick Hill, Limerick, was charged by Lawrence McDonald, inspector for the Irish Dairy Association, with having exposed for sale margarine which was not labelled in accordance with the requirements of the Margarine Act. Mr. Gaffney, solicitor, appeared for the complainant, and Mr. Pitt defended. Mr. Gaffney explained that, owing to the fact that Sir Charles Cameron did not send his certificate in time, owing to illness, to enable the prosecutors to take proceedings within twenty-eight days, they were prevented from prosecuting under the Food and Drugs Act for selling margarine as butter, and were therefore obliged to confine themselves to the charge for the minor offence of selling without a label. Defendant said that the butter sold to the inspector was out of a firkin which he purchased from a farmer in one of the local markets, but as he purchased a number of firkins during the week he could not say from what farmer the one in question was obtained, and he was unable to get a guarantee of purity with each firkin bought. Winifred McDonald stated that the butter which was served in Mr. Hill's shop was not out of a firkin, but off a lump wrapped in paper. Mr. Gaffney said sales of margarine as butter were a grave injustice to the poor people who dealt in such shops. The Bench inflicted a penalty of £5, with 10s. 6d. costs, and ordered that £4 of the penalty be paid to the complainant to meet the expenses of the prosecution.

At Wednesbury, on February 14th, Richard Bachelor, Portway Road, was summoned. Mr. Van Tromp, county inspector, went into the defendant's shop and asked for half a pound of butter, and the wife replied, "We have not got any. We have margarine." Witness said, "Why do not you label it?" and she replied, "I did not know it was necessary to do so." Defendant pleaded that his wife had full control of the business, and urged that he should not be held to be responsible. The Stipendiary: I cannot accept ignorance of the law as an excuse; defendant will be fined £4.

At Penarth, on February 15th, William Thomas, Glebe Street, Penarth, was charged with selling margarine improperly labelled. Inspector Williams visited the defendant's premises and found margarine exposed for sale in three heaps on the counter, but there were no labels. He asked for three-quarters of a pound of butter, and was supplied with an article which proved to be margarine. Defendant was ordered to pay a fine of 40s.

**PEPPER PROSECUTION.**—At Thames Police Court on February 15th, Isaac Hyman Gallard, of 166, St. George's Street, was fined 10s. and 2s. 3d. costs for selling pepper adulterated with 50 per cent. of ground rice.

**SEIDLITZ POWDERS. THE AUTHORITY OF THE BRITISH PHARMACOPOEIA UPHOLD IN BIRMINGHAM.**—At Birmingham, on February 15th, Magor (Limited), chemists, 318, Broad Street, were summoned for selling effervescent tartarated soda powders containing only 85 per cent. of the tartaric acid required by the British Pharmacopoeia. Mr. Cross prosecuted, and Mr. Pritchett defended. The powders are known as seidlitz powders. Dr. Hill (medical officer of health), in reply to Mr. Pritchett, stated that the absence of the full proportion of the acid would not be harmful, but unless the powder fulfilled the prescription it did not do what was intended, and so far there was harm. It would not have the effect on the system that was intended. Mr. Bailey, managing director for the defendants, said that the powders were brought from a firm named Wilton, at Doncaster. A representative of the firm told him that there would be a guarantee given with the goods. The guarantee was not sent, however, but a packet was tested by the defendants, and was found to be correct within a grain or so, and they presumed the rest were correct. The defendants complained to the firm that proceedings were being taken against them, and Messrs. Wilton wrote stating that every packet was weighed, but they could only suppose that one of the three who packed them had not been sufficiently careful. The magistrates imposed a fine of 20s. and costs.—George Turley, sen., and George Turley, junr., druggists' sundrymen, Edgbaston Street, were summoned for selling seidlitz powders containing only 47 per cent. of the quantity of tartaric acid, only 33 per cent. of the quantity of sodium potassium tartrate, and 213 per cent. of the quantity of sodium bi-carbonate, or 113 per cent. in excess required by the British Pharmacopoeia. Mr. Cross prosecuted, and said that on each packet the defendants cautioned the public, stating "that thousands of boxes of common imitations of genuine seidlitz powders are sold by unprincipled traders for the sake of extra profit. We guarantee all ours to be genuine." The defendants had been previously fined for an offence under the Food and Drugs Act. Mr. Fisher stated that the defendants were the worst offenders they had had before them for a long time. It was an abominable fraud. The public were willing to pay for an honest article, but the defendants choose to mix up anything and palm it upon them. The best advice he could offer to the public was to recommend them to go to chemists who would give them proper articles. Defendants would be fined £10 and costs, or in default a month's imprisonment.

**SUSPECTED POISONING BY CORNED BEEF.**—At Bradford on February 8th, Mr. Hutchinson, Deputy Coroner, held an inquest on Joseph Bartley, seven years of age, and Nora Macdonald, nine years of age. The deceased were amongst a number of children, who, on Wednesday night, January 24th, were provided with a meat tea by the Bradford Cindrella Club. The meal consisted of corned beef sandwiches, buns, and tea. Afterwards the two children became suddenly ill, and expired. The inquiry was opened on the 26th January, and was adjourned for the post-mortem and analysis of the contents of the deceaseds' stomachs. Mr. C. L. Atkinson appeared on behalf of the Cindrella Club Committee. The case of Nora Macdonald's death was taken first. David White, of 14, Chatham Street, wool-sorter, the curator of the Cindrella Club's rooms, Lee Street, said that the club supplied poor children of Bradford with food. Practically during the winter months a meal was prepared every evening except Sundays. The funds were provided voluntarily by the people of Bradford. During the last few weeks the children had been given

#### CORNED BEEF SANDWICHES

and tea some evenings, and other evenings currant buns and tea. On the 22nd and 24th of last month they had corned beef sandwiches and tea, and on the 23rd currant buns and tea. There were two different kinds of tinned beef used, and he had never seen any which did not appear good. One brand had been used five years, and the other about twelve months. Afterwards witness said he had come across one tin about two years ago, which did not appear definitely bad, but he had doubts as to its soundness, and it was destroyed. It had always been witness's custom to cut off a thin slice of each end of the corned beef and destroy it, also if there were any black specks at the side where the meat had been in contact with the tin that was also cut off and destroyed. He had made inquiries to see whether there were any further cases of sickness amongst the children after the two deaths had occurred, and he had discovered none. Since witness had been connected with the Club over 400,000 meals had been supplied to the poor children of Bradford. It was customary for members of the Committee and the helpers to partake of similar food as the children, and witness himself regularly partook of it. On the 24th inst. 344 children partook of the meal provided on that night. The instructions were that

#### FOOD OF THE BEST QUALITY

had to be obtained. Witness confirmed his evidence with respect to the death of Joseph Bartley. Mr. F. W. Richardson, City Analyst, gave evidence of making an analysis of what remained of the stomachs of the two deceased children. He found considerable signs of congestion in both stomachs, but more in the case of Nora Macdonald. The latter stomach contained about three-quarters of an ounce of a turbid pinkish brown liquid, and eight currants swollen to their full size, but completely undigested. Bartley's stomach contained a quarter of an ounce of a turbid brownish liquid. The duodenum in the case of Bartley held about one drachm of yellowish paste; and in the case of Macdonald half an ounce of very turbid brownish liquid. The contents, which were normally acid in both cases, were

#### SUBMITTED TO CAREFUL EXAMINATION.

He found no trace of arsenic or metallic poisoning, zinc and tin being especially sought for. He succeeded in separating from both stomachs small but appreciable amount of alkaloid, which was found to be of identical character in both stomachs. This alkaloid was not strychnine nor any vegetable alkaloid, but was undoubtedly an animal alkaloid or ptomaine, and had no doubt been produced by bacterial action, that was the influence of microbes upon fleshy substances. The alkaloid closely represented a ptomaine found in 1886, and was capable of producing a very severe form of convulsions. Witness also examined some corned beef and sometimes which had been forwarded to him for analysis. The inner surface of the tin was much corroded, but not more than one would suspect. Examinations of the corned beef showed absence of arsenic and all metals, except very small traces of tin and zinc—not in sufficient quantities to have any deleterious effects. There were also a complete absence of alkaloids either vegetable or animal. Supposing the germs had been in the meat they would have had to have been there before tinning. He found nothing in the stomach which showed how the germs were taken into the children's systems, but they would have had to have taken it in the shape of food. By Mr. Atkinson: He should have had no hesitation in ordinary circumstances in eating the corned beef submitted to him. Dr. Lodge deposed to having made a post-mortem examination of the body of Nora Macdonald forty-six hours after death. All the organs were sound, but there were signs indicative of the first stage of inflammation in the intestines, and of peritonitis. The head was abnormally large, and the brain the biggest he had seen in a child, but soft. After having heard Mr. Richardson he had no doubt that death was due to animal poisoning. Mr. Richardson asked whether there were any indications of the nervous system being affected. Dr. Lodge said that the brain was soft and had probably been a hyperactive one. Its condition would have made the deceased more susceptible to such a disease as that to which the child had fallen a victim. Mr. Richardson said he had asked the question because the alkaloids acted mainly on the nervous system. Dr. Lodge said he made a similar examination of the body of the boy Bartlett 33 hours after death. Though the cause of death was not apparent to himself or the other medical gentlemen who had been present—Drs. Evans, Crawford, Mason, and Percy Lodge—he had no doubt now that it was the same as in the previous case. He had since heard the history of the case, and it seemed that the boy had been subject to convulsions, but,



in reply to Mr. Richardson, he said he considered that the child had died primarily from some powerful nerve poison. The Coroner asked Mr. Richardson if he had found any pieces of pieces of corned beef in the stomachs of the children. Mr. Richardson said that there had been no solid matter in the stomachs at all. The beef had either been vomited or digested. This was all the evidence, and the Coroner then summed up, remarking that the promoters of the treat seemed to have taken every care in serving the meat.

## VERDICT.

The jury returned the following verdict:—"We are agreed that the children died from animal poisoning, probably from the corned beef supplied at the Cinderella Club; but we exonerate anybody from blame."

**DEMERARA SUGAR PROSECUTION.**—At Watford on February 13th Frederick Ernest Smith, Market Street, Watford, was summoned. Inspector Rushworth stated that on January 6th he caused 1 lb. of Demerara sugar to be bought at defendant's shop. Witness received the sugar at the door. Defendant said, "It is not Demerara sugar. I do not stock it. I said to the girl when I handed it to her, 'Yellow crystals.'" Witness asked the girl if that were so and she replied, "No." Witness asked defendant why he did not say he did not stock Demerara, as he had told the girl to refuse yellow crystals if anything were said of it. The certificate of the county analyst showed that it was not Demerara, but crystals dyed to represent it. Three-halfpence was charged. The Chairman: What is the difference in price between the two? Witness: Crystals are 1½d. or 1½d. and Demerara 2d., though I have bought it at 1½d. Maggie Prentice said she asked for Demerara sugar. Defendant served her, and said nothing about yellow crystals. She paid 1½d. for the sugar. Defendant said he told the girl he was serving her with yellow crystals. When she remarked about the price, he said, "Yes, 1½d. is the price of crystals." He had never stocked Demerara, as he could not get the price for it. He had no intention whatever to defraud. The Chairman: We think, it will be sufficient if you pay the costs. Defendant: I wish it to be understood that I did not sell the girl Demerara.

**MEAT—DISEASED PORK.**—On February A. Mytton, 16th, pig dealer and butcher, of Henn House, Bodenham, Hereford, was summoned before Sir Joseph Savory, under the Public Health Act, for sending the carcasses of four diseased pigs to the Central Meat Market, intending them for sale as human food. Mr. Vickery prosecuted on behalf of the Corporation, and the defendant was represented by Mr. Matthews. The defendant bought the pigs at Hereford Market, and having slaughtered them sent them to London, Mr. Vickery, adding, in the hope that they would escape detection. He admitted that he was the owner of the animals. Inspector Terrett said the meat was in a very wet and intensely inflamed condition and thoroughly unfit for human food. There was not the slightest doubt that the meat was unfit for human food before the pigs were slaughtered. The defendant gave evidence on his own behalf, and said that he was 19 years of age, and started business last Christmas as a pig dealer. He gave good prices for the pigs in question, and had no idea that there was anything the matter with them. Sir Joseph Savory held that the defendant had no guilty knowledge, but still was liable, the meat being bad at the time it was deposited in the London market. It could not be too widely known that the London magistrates were determined to put a stop to the sending of bad meat to London. It had been held to be constructive murder. He imposed a fine of £5 and £2 10s. costs.

**POTTED DELICACIES — AN AMUSING CASE.**—Messrs Farquhar, North, and Company, fish and meat preservers, Shenton Street, Old Kent Road, sued at Lambeth County Court, on February 15th, a Harlesden grocer named William Shellabear, to recover the price of potted goods supplied. Defendant appeared with a large bag, from which he produced a number of jars and tins, bearing plaintiffs' label, and which he passed up to the Bench. Judge Emden: Are all these bad? Defendant: Will your honour taste one of them and try? No, thank you, but this is what I will do (turning to plaintiff's representative). Will you taste them? Plaintiff's representative (emphatically): I will not. (Laughter). Defendant: Do please try this lovely tin of spring chicken—(laughter)—or this delicious pot of salmon and shrimp. (Laughter.) Judge Emden (to defendant): Have you eaten any yourself? If I had, I would not be alive now. (Laughter.) Plaintiff's representative said the goods were only guaranteed for three months. If the defendant returned them they would have been exchanged. Judge Emden: Where is the traveller who took the order? Defendant: He has been spirited away. He has gone to the front. Judge Emden: I hope he did not take any of these potted things with him. (Laughter.) Defendant: Your Honour, these tins are so full of gas that if they were opened their contents would fly up to the ceiling. (Laughter.) They were more deadly than Boer shells. (Laughter.) Judge Emden entered a verdict for the defendant with costs. Defendant: What will I do with these blessed tins and jars? If they are found in my house I am liable to be prosecuted. Judge Emden: That is a question for a magistrate.

**COFFEE PROSECUTION.**—At Liverpool, on February 14th, Frederick W. King, grocer, Scotland Road, was summoned for selling coffee adulterated with 70 per cent. of chicory. Mr. Sanders prosecuted. The Stipendiary examined the packet and said that it was sold as a mixture of coffee and chicory. It had

been held that where there was a label to this effect it was sufficient. The defendant said that when the article was sold it was stated that it was a mixture. The assistant was instructed to make the mixture "one and one." Mr. Stewart: But this is seven of chicory to three of coffee. The defendant said that was due to bad mixing. Mr. Stewart said that he had better be careful of the mixing in future. Seven-tenths of the whole was chicory, and this was a pecuniary fraud, as well as a fraud upon the buyer's stomach. He ordered the defendant to pay 15s. costs.

At Birmingham, on February 16th, the Avondale Bread Company, 41, Summer Lane, were summoned for selling coffee containing 70 per cent. of chicory. Mr. Cross prosecuted on behalf of the Corporation, and Mr. J. E. Pritchett defended. Mr. Pritchett contended that the offence was committed through an inadvertence. The defendant company sold bread only, but at the Summer Lane branch shop they had decided to sell a few articles of grocery. The manager accordingly ordered from a wholesale grocer 4 lb. of "loose" coffee, but instead of pure coffee a mixture was sent. Only 1½ lb. had been sold, and the remainder destroyed. The Bench, were satisfied that there was no intentional fraud, and imposed a nominal fine of 5s. and costs.

**COCOA PROSECUTION.**—At Thames Police Court on February 15th, Isaac Gellers was fined 40s. and 23s. costs for selling cocoa adulterated with 84 per cent. arrowroot and sugar.

**TINNED FOOD UNFOUND—A DEALER SENT TO PRISON.**—At Clerkenwell Police Court, on February 14th, Alfred Medlicott, a spice merchant, of 48, Ellington Street, Barnsbury, was summoned, before Mr. Bros, at the instance of the Islington Vestry, for depositing at 83, Bride Street, Islington, for the purposes of sale, a number of tins of fruit, meat, and fish which were unsound and unfit for human consumption. Inspector Young proved seizing between 2,000 and 3,000 tins of pineapples, sardines, &c., which, upon examination, proved to be only fit for destruction. A number of them contained fruit or fish in a decomposing condition, and none of the contents were fit to eat. The tins were stored in a shed in a backyard of the defendant's premises in Bride Street. He traded under the name of the "Auction Clearances Company." Dr. Harris, medical officer, also said the fruit and fish seized was unfit for food. A witness from a wholesale firm said he let the defendant have the tins in question for nothing on the representation that he was going to give the contents to pigs. A witness deposed to receiving a case of sardines from the defendant at 1s. per dozen boxes, which consignment was seized by the Bethnal Green authority. Mr. Bros. said he himself had seen some of the tins which contained putrid food. He sentenced defendant to three months' imprisonment.

**GOLDEN SYRUP PROSECUTION.**—At Swansea, on February 6th, Mr. J. S. West, grocer, Cwmbwrla Stores, was summoned for selling adulterated golden syrup. Mr. Jervons, deputy town clerk, prosecuted. Inspector Lambert deposed to purchasing a 1-lb. tin of golden syrup at defendant's shop. He was served by a lad, and paid 3d. for it. A portion was sent to Mr. Seyler, the analyst. Mr. West: Do you remember how many tins there were on the shelf? No; I do not. Mr. West: There were only three tins there. Mr. C. A. Seyler, borough analyst, deposed that the substance submitted to him consisted of twelve parts of genuine cane-sugar syrup and eighty-eight parts of commercial glucose. In pure golden syrup there ought to be no glucose at all. By Mr. West: He did not consider that glucose was a wholesome food; but he did not mean that it was poisonous. Mr. West: Well, all sweets are made of it; so that if you condemn glucose you condemn all confectionery. In defence, Mr. West stated that the "pure golden syrup" labels were affixed to the three tins previously spoken of by him in error. He purchased his syrup and glucose in bulk from Glasgow, and mixed them himself, using 50 per cent. of each, and therefore asserted that the analyst's certificate was wrong, and accounted for by the fact that glucose was heavier than syrup, and it sank to the bottom. Mr. West said that glucose was really more costly than syrup, and was used to improve colour and taste. The Bench felt their duty was to protect the public, and imposed a fine of £2 and costs—£3 in all.—Mrs. Mary Ann Roberts, 15, Edward Street, was charged with a like offence, the analyst's certificate showing that the substance submitted to him consisted of thirty parts of syrup and seventy parts of glucose. Mrs. Roberts said she bought a dozen tins at a sale, and was entirely ignorant of the composition of the syrup, and of the law on the matter. A fine of £2 and costs was inflicted on Mrs. Roberts, who is a widow.

At Watford, on February 13th, Daniel Melia & Co. (Limited), Jewry Street, Aldgate, London, E., were summoned. Mr. F. W. Beck defended. Inspector Rushworth said that the offence was selling golden syrup adulterated with 50 per cent. of glucose. A label was on the tin stating, "Made from the finest cane sugar to which is added a proportion of glucose necessary to prevent granulation," but two other labels also given with it stated "Pure golden syrup." These labels did not convey a proper description of the article, and the glucose was fraudulently added to increase the bulk and measure. No glucose was really required to prevent granulation. Maggie Prentice stated that she was sent by the Inspector to Melia's shop in Queen's Street, Watford, to purchase a two-pound tin of golden syrup and half a pound of shilling



butter. She was served with both articles, and 4½d. was charged for the golden syrup. The man who served her said to her, "Look at the label." She read the label and brought the article to Rushworth, with whom she went into the shop again. Cross-examined: The man now in court served her, but she did not know which article he gave her first. He did not say in handing her the tin that it was a mixture and contained glucose. Two ladies and the manager, Mr. Davis, were also present. The assistant, Clegg, tore off the top paper covering of the tin, and showed her the label, which she read. Inspector Rushworth stated that he had a conversation with Clegg, telling him why the purchase had been made. He said, "I pointed that label out." Witness asked him if he called attention to the two other labels, stating, "Pure golden syrup," and he answered, "No, it is not golden syrup." Witness asked him what it was, adding, "I sent in for golden syrup, and this has been served." He said, "Oh, you can call it what you like." He said to the girl, "Did I not tell you it was not golden syrup?" and she said, "No." Witness then said to her, "Did he say anything to you at all?" and she said, "He said to me, 'You see that label?'" She said that nothing further was said. Clegg said that two women had heard him point out the label, and Witness said he did not dispute that he had said to her, "Look at that label." The article contained not less than 50 per cent. of added starch sugar. Mr. Ekins, county analyst for Hertfordshire, produced his certificate. He said he had had samples of golden syrup without glucose, and it was not necessary to have glucose to prevent granulation. Glucose was not so sweet, and was much cheaper, being about 8s. per cwt., while golden syrup was from 16s. to 20s. Cross-examined: I have had samples as pale as that without any glucose whatever. Glucose generally is made from starch or maize. I would not say it was unwholesome, but it has not the same sweetening qualities as syrup. Pure treacle from the cane is generally regarded as too sweet for ordinary purposes, is it not? You can use less of it. (Laughter)—It has a sickly sweet taste which is considered improved by glucose? I have not tasted it. Mr. Beck, for the defence, said that knowledge of the character of the article was brought home before the purchase was completed, and the question of the quality supplied did not come in at all. He relied upon the label, together with the verbal caution, for the purpose of showing there was no prejudice to the purchaser. The Chairman: There is no question of the label being brought to the notice of the purchaser. That is admitted. Mr. Beck contended that it was not necessary that the notice to the purchaser given by the vendor should comply with Section 8 in order to prevent the purchaser being prejudiced. The invoice the defendants received with these goods stated, "Made from cane sugar, with a preparation of glucose added to prevent granulation." This was a new subject for prosecutions brought up within the last twelve months. An ingenious gentleman in Southwark discovered that glucose might be regarded as an adulterant, and the analyst seting a point to say that golden syrup meant the product of the up a standard of what golden syrup was. He thought it was strain-sugar cane, but that standard having been established a crusade was started. The Chairman: Perhaps out of consideration for the sugar plantation which are suffering so much in the West Indies. (Laughter.) Mr. Beck: I am afraid it will not be of much assistance to them, as the trade is being ruined by this kind of thing. This is how it arises that this label was used. The Chairman: We should not place much reliance upon verbal evidence which would vary the written label. Joseph Clogg, the assistant who served the article, said that before the purchase was completed he explained that it was a tin of syrup containing glucose. He also asked the purchaser to read the label. David D. Davies, manager of the shop, said he was present when the sale was made, and heard the assistant say that the article was a mixture, containing glucose. This accorded with instructions given by witness. Cross-examined by Mr. Rushworth: We are selling pure golden syrup at 4½d., but we had none in stock on this occasion. Re-examined: Fourpence-halfpenny is the lowest price for golden syrup. Mr. Adolphus Sheffield, secretary to the defendants, stated that they obtained the golden syrup from the Glebe Refining Company, of Greenock, under the following warranty:—"Free from beet. Made from cane sugar, with a proportion of glucose added to prevent granulation." Since the glucose matter had come up the top label had been used. They sold the article in the same state as they purchased it. Mr. Beck, in reply to the chairman, said he did not rely upon this as a legal warranty, but as evidence of *bona fides*. The Bench inflicted a fine of £5 and £2 16s. 6d. costs. The Chairman said that there had evidently been a long course of dealing in this way with this particular article. This class of golden syrup had been sold with this mixture. It was to the detriment of the purchaser, to whom it was sold under the description given on the label at the top of the tin. If the inner label had not been brought to the notice of the purchaser, the outer labels would not have described the article at all. They had had it in evidence that it was not necessary to have glucose to prevent granulation; certainly it was not necessary to have it to the extent of 50 per cent. The vendors would have in the future to protect themselves by giving a different description of the article from what was given on the label. In reply to Mr. Beck, the Chairman said they were willing to state a case.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### Weighing Paper with Sugar, Rice, Flour, etc.

February, 19th, 1900.

SIR,—I was very pleased with the copy of *Food and Sanitation* you sent me last week. I think it is just what Shop Managers and Assistants need.

Can you inform me as to whether we are bound by law to give full weight by law without package in such cases as Sugar, Rice, Flour, etc. If you could, I should be greatly obliged to you.—I remain, T. A. KERSHAW.

The decision at Wednesbury, on January 16th, applies to Tea, Rice, Flour, etc., as well as Sugar. As the case is important, we reprint it from *Food and Sanitation*, January 27th. The Grocers' Federation are, we believe, considering the question of raising a test case, but as the law at present stands, weighing paper with goods certainly appears to be illegal.

#### WEIGHING PAPER WITH SUGAR DECLARED ILLEGAL.—

IMPORTANT DECISION.—At Wednesbury Police Court, on January 16th, the Stipendiary (Mr. N. C. A. Neville) delivered judgment in the case of James Hickin, grocer, of Pinfold Street, Darlaston, who was charged with having an unjust scale in his possession, under circumstances already reported, on the 19th of December. His Worship remarked that in this case it was proved that some paper was practically being weighed as part of a quantity of sugar. Probably the defendant was relying upon the decision which he gave some time ago at Wolverhampton, where a summons was taken out under the 26th instead of the 25th section of the Act for making a fraudulent use of the scales. There the facts were very similar to what they were in the present case. The man was convicted, but upon going to the Queen's Bench Division it was held there was not an intentional fraud in the use of the scales partly from two reasons viz., because the purchaser in that case actually saw the paper being put on the scale for weighing, and further because it was then stated, as the defendant in the present case had pleaded, that it was the custom of the trade to do this. But in the present case the proceedings were not taken under that section. They were instituted under another section of an Act of Parliament which made it unlawful for any person to use in connection with his trade a scale which was unjust. A case had recently been decided that where a grocer, in weighing packets of tea, put a piece of paper on the scale for the purpose of his own convenience, and thereby made the scale unjust, that person had at that time in his possession a scale which was unjust, although so far as the mechanical apparatus of the scale was concerned it was in perfect working order. The mere fact of putting a piece of paper on the scale had now been held by the Courts that made that scale unjust, and in one case in particular, that of *Lane v. Rendall*, the Judges said that persons who did that were liable to be convicted for having an unjust scale in their possession, and it was not necessary that they should be guilty of a fraudulent use of it. Practically there were two distinctions, but there was no doubt that when it became known to the trade that the use of paper made a scale unjust, and if the trade continued to use it after these decisions had become known, then the Courts would hold that the continued use of scales which the Courts had held to be unjust would be a fraudulent use. In the future, if this practice continued, grocers would be liable to be convicted under the 26th as well as under the 25th section. The proceedings in the present case were under the 26th section, and it was not for him to say that in using the paper defendant was guilty of fraud. All he had to satisfy himself about was that defendant had on that date named a scale on his premises which was a matter of fact unjust. There would, therefore, have to be a conviction in the case. Defendant said the wholesale grocers did the same thing. The Stipendiary: Then the wholesale grocers will have to alter their proceedings, unless they would like to be convicted. I do not, however, think it necessary under the circumstances to inflict a heavy penalty. It is quite possible you may have been misled by facts in the case of *Harris and Allwood*. You must now understand that when you are weighing tea or any other article you must not put a piece of paper under the scale, or you are doing a thing which is, according to law, illegal; you are making the scale, which is a perfect instrument in itself, unjust, and if you do it again you will be fined much more heavily. You will be fined this time 5s. and costs—in all 14s. 6d.



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## Food and Sanitation.

SATURDAY, MARCH, 3, 1900.

### The Absurdity of Warnings Against Oysters, Celery and Watercress.

IN December last we protested against the absurdity of Medical Officers of Health airing fads at the public expense and injuring traders upon evidence unworthy of consideration. To illustrate this we examined the oyster question and showed how the report of Professors Herdman and Boyce proved that the issue of public warnings against the use of oysters had no justification whatever. These scientists, after an exhaustive investigation failed to detect in any instance the typhoid bacillus in any oysters

obtained from the sea or from the markets. They of course admitted what it does not need professors to tell us that oysters can be infected, but for the matter of that so can milk, butter, soup, meat extract, or any article of food. If a Medical Officer of Health has proof that oysters from any particular bed are infected and may transmit typhoid it is his duty (and he should have the courage to do it) to say that oysters from that particular bed should not be sold, but the issue of wholesale warnings against oysters, affecting large industries like those of Whitstable, etc., is quite another thing. There has never been any scientific justification of these warnings when applied to oysters and shell-fish generally, and why any enlightened town or city should sanction their dissemination passes understanding. It is true that it is possible to transmit typhoid by many foods and drinks, and if the Medical Officers of Health who have issued the warnings against oysters had any sense of humour or logical appreciation they would begin by warning the public against the use of milk because whilst there does not exist one really proved case of typhoid from oyster eating there are hundreds proved due to the use of milk. Glasgow recently had 51 cases of enteric fever caused by milk, and Ayr 166 cases. But these medical officers who are the victims of "oyster-mania" do not issue solemn warnings against the use of milk which is a far more dangerous food. They do not deem it necessary to issue posters at the public expense pointing out the dangers of drinking water, although every sanitary expert knows well that the water supply of London is only semi-filtered sewage and drainage in which micro-organisms larger than the typhoid of cholera bacillus, indicative of sewage pollution are commonly present. Why with the Worthing and other awful examples before us not warn the consumer of water of the awful risks he runs? The answer is a simple one. No Medical Officer of Health or Sanitary Committee could issue such posters without being drowned in a sea of ridicule. More often than not it is the desire to be talked about which causes over-zealous faddists to start these scares. Not long ago that healthful article watercress was banned by the hygienic faddist. The latest victim is celery which is now the subject of an awful warning. A moments common-sense examination of the celery scare ought to be sufficient to demonstrate its absurdity, although the *Medical Press and Circular*, has the following brilliant exhibition, anent celery and watercress. A few years ago, says our contemporary, "A large number of cases of typhoid fever were traced to the popular watercress, and there was a great decline in the use of this vegetable in consequence. A somewhat similar report has now been promulgated in regard to celery. Such risks of course, must always obtain more or less in the case of all vegetables which are taken from artificially fertilised gardens, and eaten in an uncooked state. Inadvertently typhoid infected material might be used to stimulate the growth of celery, and it is not difficult to comprehend how an epidemic of the disease might thus be caused. The possibility, at all events, of such a contingency is worth



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noting, especially when seeking to ascertain the cause of an outbreak of the disease which may seem to be inexplicable." It is a great pity that this sort of alleged scientific warning finds its way into print. Let us examine it in the light of known facts. First one wonders—why celery? We do not know, nor does the writer in the *Medical Press and Circular*. We have personally grown that healthful food, using various kinds of manures and sewage, but like every other practical grower of fruit, vegetables or flowers, we have used sewage as well as other manures for lettuce, endive, and in fact for every kind of vegetable food. In applying liquid manures, lettuce, onions, etc. receive it the same as celery does, and if the sewage be typhoid infected

these plants would spread the disease equally with celery. Why, therefore, single out celery? We suppose because the faddist wanted a subject and didn't care where he found it or how it injured any traders so long as it made "sensational copy." We wonder if the concentrated essence of a sublimated ass who started the celery scare is aware of the fact that there are scores of sewage farms dotted over the United Kingdom and the Continent supplying vegetables of all kinds, and that the most rigorous investigations have failed to show that the consumption of vegetables so grown has caused outbreaks of disease. Thus Dr. Arthur Newsholme, Medical Officer of Health, Brighton ("Public Health and its Applications," pp. 329 and 330) writing of the sewage farms at Gennevilliers and D'Achérvés says that "disease cannot be attributed to this cause either in England or elsewhere." Cabbages, artichokes, beet-root, fruit and flowers are cultivated, and some is meadow land feeding 800 cows. The meadows and arable lands are sewage flooded.

We object to scare making based on faddism, the desire to be sensational, or on ignorance because it interferes with the progress of true hygiene, causes enormous loss to traders, and well nigh ruins healthful and legitimate industries. The Town Councils who have sanctioned the issue of oyster scare posters should exercise common-sense and remove the ridiculous exhibitions of unjustifiable faddism.

## Dietetic and Hygienic Notes.

### The Mischievous Broom.

THE former way of cleaning the house, and still practised to a large extent, is being severely attacked by hygienists. Dr. Max Girdansky, in the *N. Y. Medical Journal*, has, in part, this to say:

"I wish to call your attention to one agent whose gruesome power in this direction [spreading tuberculosis] is greater than that of all other agents combined. I mean the broom. The foot is an easy, thoughtless affair. The broom is applied with a great deal of attention, intention, and vigor. The footstep has its habitual narrow path, and seldom roams out of it. The broom scorns negligence, and pries eagerly into each forgotten corner. The aimless footstep is put down carelessly, and may be insufficient to break up the crust formed by the pathological sputum. The action of the wind is weak, uncertain, and frequently tempered by the inhibitory influence of the shower. But when the dutiful housewife comes out in the morning with her sceptre of power—her broom—to do the house-cleaning, cleanliness becomes the watchword, and thoroughness the motto, of the hour. She enters upon the field with energy worthy of a better purpose. With her broom she rubs and scrapes, and scrapes and scrapes, and rubs and scrapes again, until all noxious matter has been loosened, pulverised, and gathered out of its hiding place. She whips, and grates, and brushes until the room is filled with a cloud of dust; not an inch of floor is left undisturbed, not a corner unswept.

"After an hour of such work she has cleaned her room, and gathered the dirt out of the house. But the dirt that she has actually cleaned out of the house is of the more innocent variety—pieces of fruit, pieces of bread and meat, large or moist particles of sand, and wear and tear of clothing and furniture, pieces of paper, etc. The really noxious variety, the dried sputa, contents of the nasal and rectal cavities, all waste products of man and animals, skins shed by convalescents from scarlet and similar fevers—these have been broken up into the finest particles, thoroughly pulverized, and again and again flogged violently into the air, to be inhaled by this very industrious house-cleaner, by her children, and the members of her household. The clouds of dust her broom has raised are so thick that she feels necessity of protecting her hair and covering her clothes and furniture, but she does not give a thought to her lungs. Perhaps she is not aware of having any.

"The cleaning of the carpet, the mat, and the hall rugs comes next. These are thoroughly shaken, hung out from the windows, from the lines, occasionally waved in the street, or upon the roof; dusted, shaken, and beaten until they are rid of all their dirt; until all this has been converted into fine dust, flogged into the air, in which it is kept perpetually floating until it reaches the permanent destination—the bronchial mucous membrane of the passer-by.

"Thus the process of sweeping, although apparently



accomplished its purpose, in reality serves as the most effectual means of spreading tuberculosis, the scourge of the age.

"But the sweeping is not the function of the housewife or servant only. The finest particles of wear and tear of the household have been thrown out into the street, the dust entering many a bronchial tube, but a part of it has settled upon the furniture, walls, and ceiling of the house; there, however, not to remain for a very long period, for the dusting hour will arrive—all will be stirred up, all dust will be disseminated, and all bacilli set floating again, until as many of them as possible will settle in some trachea, bronchus, bronchiole, or pulmonary vesicle. In the afternoon or on the next day this process is repeated.

"That part of the dirt that has been removed to the street, and that part of the dust that has been allowed to escape through the opened windows, has entered into the domain of another knight of the broom—the janitor. He exhibits, if anything, certainly not less zeal than the housewife. The house dirt and dust that has mingled with the particular dirt of the pavement; viz., the expectoration of the passer-by and the excretions of domestic animals, is again rubbed and brushed and puffed into the air; then, again, the bacilli are offered an easy chance to enter the lungs of the speeding breadwinner or school-going innocent.

"If sixty per cent. of all men die of pulmonary tuberculosis (Biggs); if the main, almost the only, cause of pulmonary tuberculosis is bacilli-laden dust, and the broom by far the main cause for such dust—the broom is evidently responsible for more deaths than the sword ever was."

\* \* \* \*

### The Influence of Cooking on the Nutritive Value of Meat.

In preparing meat for the table it is necessary not merely to consider its palatableness, but also to render it more readily susceptible to the action of the digestive juices and not to sacrifice its nutritious quality. Finely chopped raw meat would satisfy this last requirement. It would soon, however, cease to be acceptable to the palate and, moreover, the great demand made upon the digestive power of the alimentary tract by the necessity of dissolving out the fibrous envelopes and tendinous tissue would make its prolonged use undesirable. There would be the danger, also, of introducing parasites into the body, a danger obviated by thorough cooking. Raw pork often contains the *Trichina spiralis* and *Tænia sodium*, and raw or even underdone beef may convey the *Tænia saginata*. In some parts of Europe the *Bothriocephalus latus* is not infrequently found in raw or insufficiently cooked fish, notably the pike, perch, and some salmonidæ.

If meat be placed in cold water and the latter then brought to a state of ebullition, it loses the greater portion of its nutritious constituents. The water dissolves out the soluble albumin, kreatin, kreatinin, and other extractives, the fat, gelatin, lactic acid, inosit, and especially the inorganic salts, compounds, mostly, of potassium and phosphoric acid. When the water has reached a temperature of over 60° C. (140° F.), the proteid substances extracted by it coagulate and form a brownish foam on the surface, which is skimmed off by the cook. At the same time the albumin still contained in the meat also coagulates and thus prevents a further escape of the muscle juice. Flesh that has been boiled in this way is, therefore, poor in nutriment. If the meat be put into water which is already boiling, the loss of nutrient material is less, for the coagulation of albumin which takes place at once on the surface of the meat prevents to a great extent the exudation of the muscle juices.

Of all the modes of preparation that of roasting (or broiling, which is a process very similar), without the addition of water, insures the greatest amount of nourish-

ment. It should be done before a strong fire, so that the superficial zone of albumin shall coagulate as quickly as possible. If the juice is allowed to escape, the meat becomes dry, loses its savor, and much of its nutritious quality. By dripping butter or lard on it, or "basting it," as the cooks say, it will be kept from burning. If the temperature to which the inner portion has been exposed does not exceed 50 to 52° C. (122 to 124° F.), the albumin and coloring matter of the blood remain fluid, thus producing the "rare" meat so popular especially with the Anglo-Saxon. Stewing is practically the same as roasting, with this difference, however, that the meat is cut up—which itself causes some loss of nutriment—and cooked with vegetables.

In order to preserve meat, and to prevent putrefaction, it is either smoked or salted. The latter process lessens its nutrient quality because a considerable amount of the juice passes into the brine. Refrigeration by ice does not impair the quality of meat, and is extensively practised nowadays. For the preservation of meat in tin cans various processes are used, the most common of these being exposure to a temperature of from 204 to 260° C. (400 to 500° F.), which destroys all micro-organisms; complete exclusion of air; partial exclusion of air and absorption of the remaining oxygen by sodium sulphite. Antiseptics like boracic acid, borax, or salicylic acid are efficient in preventing putrefaction, but their harmlessness to the human organism is not above question.

\* \* \* \*

### Water Diet for Infants.

THE so-called water diet—*diète hydrique*—as a therapeutic measure in the treatment of digestive disorders of nursing infants has found much favour with French physicians in recent years. It consists in the suppression of all food and the substitution therefore of boiled water. An absolute water diet is employed especially in the more severe forms of infection of the gastro-intestinal tract, in which it mitigates the infective process, procures rest for the digestive organs, counterbalances the effects of losses of water, increases diuresis, and facilitates the elimination of the poisons. The infant is made to take one to one-and-a-half litre per day of pure boiled water in small sips every half-hour, and whenever it is thirsty. This régime is continued for a day or two, when the digestive trouble will have ceased, or at least improved sufficiently to allow of the gradual resumption of normal feeding. In cases of mild infection, pure water can be replaced advantageously by boiled water containing sugar-of-milk, or by barley or rice-water.

Sugar-of-milk is regarded also as an efficient diuretic in adults particularly in cardiac affections. From sixty to one hundred grams may be dissolved in pure water or in a diuretic mineral water. Dieulafoy recommends that it be dissolved in a small quantity of hot water and that this be put into a bottle of mineral water, from which an equivalent amount has previously been poured off. A little lemon juice or champagne may be added.

To prepare barley-water, two teaspoonfuls of pearl barley are boiled in half a litre of water, and the whole is strained. Rice-water is best made, according to Marfan, by putting 60 grams of rice flour into half a litre of cold water, adding an equal measure of boiling water, and boiling the mixture. After straining through muslin it is ready for use.

\* \* \* \*

### Advertising and its Result.

PRESIDING at a meeting of Bovril, Limited, Mr. J. Lawson Johnston said that the special circumstances obtaining towards the end of the year afforded exceptional opportunities for an advertising campaign, of which the directors decided to avail themselves, with the result that the sales up to date showed an increase of over 120 per cent. over the corresponding period of last year. The result, he was glad to say, had been achieved without taking into account the large Government orders received in connection with the war in South Africa,



### A New Proteid Constituent of Milk.

SEVERAL years ago Wroblewski published his discovery of a new proteid constituent of human milk, which he regards as distinct from the three proteids hitherto known in that fluid: albumin, globulin, and casein. This new substance, to which he has given the name of opalisin, and which has the formula  $C_{150}H_{292}N_{43}PS_6O_{68}$  may be obtained by treating casein with acetic acid and sodium chlorid. It has no reducing effect upon Fehling's solution, even after boiling with hydrochloric acid, and does not yield pseudonuclein when acted upon by pepsin. Its solubility is greater in acid than in alkaline liquids, the solutions being characterised by an opalescence (hence the name opalisin), which disappears on the addition of an acid or alkali in excess. That opalisin is not a product of casein, but exists preformed in milk. Wroblewski has demonstrated by the following test by which a splitting up of casein is impossible. The casein was precipitated by a

one-per-cent. solution of acetic acid, washed with alcohol, deprived of its fat by ether, and cautiously dissolved in a dilute solution of soda. The presence of opalisin in the solution was revealed by a distinct opalescence.

Thus far the new proteid has been found in human milk and in the milk of cows and mares. It is probable that these three fluids contain different, though closely related, substances, so that opalisin is yet to be regarded as a collective term. In a more recent paper detailing his further researches on this subject (*Zeitschrift fuer physiologische Chemie*) Wroblewski states that he has found human milk to contain the greatest relative amount of the substance, while cow's milk has the least, mare's milk occupying a middle position. This discovery would furnish us with another means of distinguishing human milk from cow's milk. According to the author, the difficulty experienced in precipitating the casein of human milk is due to the presence of opalisin.

## Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 91.)

Witness was questioned as to whether he thought that farmers sending milk to the factories added preservatives to their milk unknown to the people at the factories.

Witness replied that there was nothing to prohibit the farmers from doing so in New Zealand, but he did not think it was at all likely that they did so. The powers of the Government inspectors under the New Zealand Act were very large, but they would not extend at present so far as prohibiting the farmer from adding preservatives. Still, the farmers were situated so near to the factories that it was unnecessary for them to add preservatives and very unlikely that they would do so.

Replying to various questions by the chairman regarding pasteurisation of milk for butter purposes, Witness said that it had been tried, but not with very good effect. While it was true that it removed the bad taints, it also removed the good traits. Butter which was made from pasteurised milk was uniform, and the effect of pasteurisation was to keep it for a longer time than if it were made from milk in its natural condition. But while making the uniform butter, pasteurisation destroyed the fine qualities of the milk, and they could not make such high quality butter as they could by the natural process. The idea in New Zealand was not so much to make a uniform butter as to make the finest quality butter. It had been found in London that pasteurised butter, after coming from the freezing chamber, was not so good as the non-pasteurised. The feeling in favour of pasteurisation in New Zealand was not so strong as it was.

Sir H. Maxwell: It is not of such good quality, but its keeping quality is superior?—It goes off in flavour, and it does not keep better after being frozen. That is the difference with Danish butter. The addition of preservative prevents the butter from going off after it has been frozen.

To sum up, your opinion is that preservative facilitates the trade with New Zealand?—Certainly; but no one wants to use more than is necessary.

Would you go so far as to say it is essential?—It is essential to keeping butter in the finest condition, and therefore that makes it beneficial to the trade.

My question is whether it is essential to the trade: whether the trade depend upon the use of preservatives—the trade between New Zealand and this country?—I will not say it would be essential. If the use of preservatives were prohibited, and by that the quality of New Zealand butter was depreciated, they would still continue to make butter and send butter over here, but it might be considered on this market an inferior quality of butter, and would not give satisfaction to those using it, and would not realise as high a price.

But you have stated that the use of preservatives is not universal, and that a great deal of butter comes with nothing but salt. Is that at present sold at a lower rate than the butter

with preservatives?—Yes. The butter that commands the highest price in this market, and which has obtained the highest prizes in New Zealand in competition, is a butter treated with a salt preservative.

Would your traders object to the obligation to notify the presence of preservatives?—I do not think so. If there is a limit placed on preservatives and it is to be notified, I have no doubt they would notify that all colonial butters were treated with it. But possibly the notification to consumers that "this is New Zealand" would be sufficient. I have often been asked where you can get New Zealand butter, but I cannot send them to any grocer's shop. New Zealand butter is merely sold as the finest butter. If it was notified that this is New Zealand or Victoria butter the inference would be at once that it is treated with preservatives.

Have you any evidence to show the progress of the butter trade between New Zealand and this country? The New Zealand export trade of factory butter has now been going on for about fifteen years. In 1882 the Government issued a proclamation in the "Gazette," offering a bonus of £500 to any company that would establish a factory on the American principle for the export of their butter and cheese, and who would export twenty-five tons of butter and fifty tons of cheese that would fetch in the London market payable prices. In 1883 the export of butter was 8869 cwt., five years later it was 22,995 cwt., in ten years 58,149 cwt., and in fifteen years 96,801 cwt. Last year it was 102,479 cwt., so that you will see it has been increasing steadily.

Is it an all-the-year-round trade? No; butter from New Zealand commences to arrive here about December and continues till about June. It reaches here at the season when butter is scarce.

Colouring matter was used in butter to pander to the taste of the consumer, but they did not use it in New Zealand at all. Cheese was coloured in New Zealand to suit the requirements of the trade. The colour used was annatto. He did not know of any patent colouring matters used. Annatto was understood to be perfectly harmless, but for himself he thought colouring was unnecessary in any food.

Dr. Bulstrode: How much margarine is exported from New Zealand? None; we do not allow any to be made. Our Margarine Act is very stringent.

With regard to the amount of boracic acid which you would wish allowed in butter, what are the views of those in New Zealand?—The views are that a limit should be placed on the quantity of preservative that is legal in this country; and as far as tests have been made to prove the quantity required it has been found that it is unnecessary to use a larger quantity than  $\frac{1}{4}$  per cent.



And you would be content with  $\frac{1}{2}$  per cent.?—Yes; and in doing that you are giving a good margin, because after  $\frac{1}{2}$  per cent. is added it is very probable that half of that would be worked out in the process of manufacture.

You would be satisfied if a limit of 0·5 per cent. were made for butter in this country?—Yes.

Why did the agents-general of the colonies object, when 0·5 or 0·6 was found, to any prosecution?—That was 0·7 with the Glamorganshire County Council. What they objected to was every county council being a law unto itself, so that it might be 0·7 in Gloucester 0·5 in some other county. The trader had no law to go upon, and had merely to use his own discretion as to whether it was injurious or not.

You know as a fact that the agents-general did represent to Mr. Chamberlain and object to those prosecutions on the ground apparently that they had information that 1 per cent. was harmless?—I do not say that 1 per cent. is not harmless. I say I believe 1 per cent. is harmless, but that it is advisable to have a limit, and it is advisable to have a limit as low as is possible, and therefore I say I consider myself that  $\frac{1}{2}$  per cent. is satisfactory—that  $\frac{3}{4}$  per cent. would be satisfactory to us and our trade.

You would be satisfied with 0·5 per cent.?—I should be satisfied with anything so that we knew where we were.

And any fresh preservative to be standardised?—Yes.

He considered if the retailer were obliged to label where the butter came from it would do as well as any notification that the butter contained preservatives, because people would know.

The Chairman said that it should be obvious to witness that such a suggestion was impracticable.

Witness said retailers had to label margarine.

The Chairman said that might be so, but that was a very different matter, because they could not find the country of origin of butter by analysing it. Such a suggestion as the witness's was impracticable.

In reply to Professor Thorpe, Witness said that it was quite true that the experiments which had been held formed a limited basis for the suggestions he had made, but further trials were being made by the New Zealand Government, although he had not been furnished with the particulars.

#### MR. ROBERT GIBSON'S EVIDENCE.

Mr. Robert Gibson is well known to our readers, his vigorous English and sledge-hammer opinions having often appeared in *Food and Sanitation*, during the past eight years. He is master salesman of the Public Creamery Market in Limerick, and has had fully forty years' work at the butter trade.

The Chairman: We understand that the fresh butter trade in Ireland depends at present a good deal on the use of modern preservatives?—I believe it depends entirely on it.

Why do you believe so?—Because where it had been tried without preservatives it has proved unsatisfactory to the people who have got the stuff forward. We have tried butter again and again without preservatives. I have a private gentleman who runs a private dairy and makes some of the finest butter I ever saw, and he tried it without preservatives, and got into the greatest trouble with it. As soon as he used preservatives his customers were thoroughly satisfied. I have several letters of the same sort. I have tried hundreds of experiments, and I find the best saltless butter made will not keep for more than a week. That does not do for distribution. For instance, if I send butter from Limerick to Dundee, which I do, it leaves on the Friday by the Glasgow boat. The agent in Dundee would not get it before Tuesday morning, and he then distributes it to his customers during the week, and they must keep it in their houses for some time. With a small quantity of preservatives that butter would be as absolutely good and sweet at the end of a fortnight as it would at the beginning. Without preservative it would be absolutely bad. And it is used not only for the absolutely fresh trade, but for the salt butter trade also. We find that Irish butter is not treated as Danish or Normandy.

You mean in the manufacture?—No, Sir; I mean here in England. We have always had the name for having keeping butter, and Irish butter is held for a month or two months; and I have sent butter to a gentleman in Grantham who gets a four months' supply, and he tells me that the last of it is as good as the first.

Do you attribute that to the use of preservatives?—Yes. I have it made specially with preservatives for him. All the butter that I have any control over is made with preservatives.

But is there anything in the quality of Irish butter itself which makes it a better keeping butter than Danish?—I do not know that. It has always been considered a better keeping butter, and if we send them butter that will not stand there are at once rows about it; whereas the Danish and Normandy butters are used promptly, because they know that in a fortnight, or three weeks at the outside (Danish butter if it misses two

markets will go for next to nothing)—butter worth 120s. may be sold for 80s. The firm I represent gets hundreds of casks of Danish butter every week. I have had many opportunities of seeing it perfectly fresh and after a short time, and it will not keep so long as our Irish butter is expected to keep. The great difference between the make of Irish and the make of Danish is that the Danes make fresh butter all the year. They keep on having milch cows come on in the winter, and they supply the fresh-made article always. Unfortunately 90 per cent. of our farmers calve their cows early in the spring, and the butter is made from April until the end of November. For instance, in 1898 I estimated, after a careful collection of statistics during the year, that we made 80,000 tons of butter in Ireland from the beginning of April till the end of November; but there would not be more than about 1000 tons made between December and the beginning of April, because the milk of the cows in Ireland during that time is valuable for making condensed milk, or is used in the towns; and so our make of butter from December 1st to perhaps April 14th is a mere bagatelle.

Continuing, Witness said that he knew a good deal about the Danish and Swedish butter trade, but he had not visited Denmark. He had been in Sweden, and had seen the modes adopted in that country. Of course it was correct that the Danish farmers also supplied their towns with milk in winter, but the Irish farmers did not calve sufficient cows to do that. Of course there was nothing to prevent them from doing so.

The Chairman: I understand that if the Irish dairy trade were to undertake the supply of butter throughout the winter the farmer could comply with the arrangements of the trade by supplying milk for butter?—Certainly. If the Irish farmer were as educated as the Swede and the Dane he could and he would calve his cows in winter. For the past twenty years I have been dinning it into them as far as I could.

Have you made any progress?—I should say we have now about twenty times as much winter calving as we had twenty years ago. Our winter butter fetches more money than the best Danish butter.

Your winter butter being absolutely saltless?—Some salt and some saltless. I do not know any trader who does not take some salt as well as saltless butter.

Is there preservative in the salt butter also?—Every bit of butter that I have been able to control for the last seven or eight years is always made with preservatives. I believe it is absolutely necessary for the meeting of the present taste in England. They will not have heavily salted butter, but they want mild butter instead. I myself use nothing but saltless butter made with 1 lb. of preservative to 112 lbs. of butter, and the result is that for the last three or four years since I began using it I never require to drink between meals.

Are you aware that that percentage is considerably higher than has been found necessary in conveying slightly salted butter from New Zealand to this country?—I am quite aware that it has been stated to be so, but I know that is what we use for it; I had it tested, and that is the percentage. One lb. of preservative to 112 lbs. of butter works out on analysis to be 0·8 per cent., and that will keep fresh butter for a month as sweet and fresh as at the beginning.

What percentage do you put in salt butter?—One lb. of preservative with 3 lbs. of salt to 112 lbs. of butter.

Why do you find it necessary to put a larger proportion of preservatives in Irish butter than the New Zealand manufacturer does to send it to this country?—In the first place the New Zealanders have a Government which has done everything possible to teach them how to make butter correctly, and has put cold storage for them at the ports of shipment and other points from where the butter is sent. The Government has arranged for refrigerating chambers in steamers, and the butter is brought over here under the best possible circumstances. Irish butter, on the contrary, is brought over here under the worst possible circumstances—exposed on our railways; no public cold stores; put into waggons and carried at all sorts of hours of the day; carried under a burning sun without an attempt at refrigeration; thrown on the quays at Waterford, Cork, or Dublin, and exposed in every way possible; put into steamers without any attempt at refrigeration, and landed at your English docks and badly handled by your English railways because there is absolutely no one to look after it.

Mr. Gibson said on this question of the bad means of transit, that he knew of hundreds of cases. In one case a gentleman in London complained that a lot of butter was badly damaged by the London and North-Western Railway, and he asked that no more should be sent by that railway. By mistake a little later some more was sent, and again the complaint was made that half had arrived damaged and the other half had not arrived at all at the time of writing. That was in 1898, and the gentleman said that if there was no other way of getting over the butter except by that railway he would not have it at all. It was true that they had a claim against the company, but it was a case of "getting butter out of a dog's mouth." Half the claims they had were never pressed because they could not be bothered with them.



The Chairman: Is that good business?—Yes. If you press them you have to lose a lot of time going to court, and you lose more than your whole claim. We do press them sometimes. But in the case of Danish butter, if any damage is done Harold Faber is on the railway at once, and they are made "to sit up."

Can you give any specific case—not general charges—against railway and steamboat companies?—I could give dozens.

You said just now you could give hundreds?—Yes, I could.

At Limerick, the Waterford and Limerick Railway Company brought two tons of butter in a stinking waggon in which fish had been stored. He did not think there had been an improvement in the mode of transit of late years—there was certainly no improvement in the way of giving protection from the sun and from bad weather. At Limerick Station they could see a line of carts loaded with butter with no protection whatever. The Irish butter trade had largely developed, but he did not know of any steps which the railway companies had made to meet it. His experience was that the railway companies on both sides of the Channel handled the traffic as badly as ever they did.

The Chairman: Are you aware that large quantities of butter are made in creameries in this country without preservatives?—Yes and why not? They go into consumption in two or three days. There are large quantities made in Ireland, and great complaints have been made for not keeping. I know one large buyer who bought fifty or sixty tons a week and he refused to buy unless preservatives were used.

It is generally known to your consignees that preservative is in the butter?—As far as I am concerned I have made it as plain as could be, and I have made it plain to private people. I send some people butter by post, and they tell me distinctly they like butter with preservatives in it, and that it keeps.

In that case you would see no objection to requiring a declaration as to the presence of preservatives?—Not the slightest objection. I am perfectly satisfied that preservative is a great deal more wholesome than salt from my own experience. When I ate salted butter I used to go between meals for two or three drinks (laughter). I may say I am a total abstainer (renewed laughter). I believe, for the health of the community and the pockets of the community, that the use of preservatives in butter has been of immense advantage. We produced 80,000 tons of butter in 1898, but our ordinary make would be about 70,000 tons a year. Last year, on account of the bad May, our produce was only about 66,000 tons. Suppose we have a good year, and there are 13,000 or 14,000 tons extra produced, what is to be done with it? Who is going to buy it unless it is made so that it will keep? Nobody would buy it, except at the price of confectionery stuff—50s. to 60s.

Further examined, Witness said that boracic acid and borax were the base of all preservatives. There were two or three ingredients put in for special purposes, but 99 per cent. of the preservative was borax. The great difference between Irish makers and other makers was that, as a rule, Irish makers were not educated. In Denmark and Sweden they had been educated for years at the Government expense. There were some good makers in Ireland, and they made magnificent butter all the year round. But generally their makers had three months in a dairy school and came away with a certificate, and knew how to do things when everything was absolutely right. When things were not all right they blundered and bungled, and there was nobody to put them right.

The Chairman: The impression you give is that your people are not sufficiently educated in butter-making. If they were better educated, would they be more independent of the use of preservatives?—I would still rely on preservatives, but I believe if they were thoroughly educated and had an all-year supply of butter, and if their butter were treated in England as the foreign is, we might do without preservatives; but I say under the present circumstances it is absolutely impossible to give a butter which will please the people and will keep without preservatives. We are told that the Danish butter comes with 1 per cent. of salt, and that may be the fact with an infinitesimal quantity; but I have had many samples of Danish butter analysed, and the percentage of salt was returned at 1·9. I know that for the North it was made with 3 or 4 per cent. of salt. I know that in Newcastle-on-Tyne they would not take a butter made with 1 per cent. of salt.

Who would not take it?—At Newcastle-on-Tyne they like a little salt in it, and the same in Manchester.

Have you anything to say about colouring matter?—Well, the South of Ireland butter merchants whom I represent are very much divided. On one side they say we should use no colouring. They say that if no colouring were allowed margarine would not sell as it is sold now, and it could not be sold as butter. A certain proportion of the South of Ireland butter merchants are very strong in having a total prohibition of colouring matter in all food substances. Another proportion—I should say they are pretty equally divided—say that it is absolutely necessary to have colouring to suit the tastes of different districts. In Liverpool you may send them butter as pale as you like, and they have not the slightest objection; but if you send highly coloured

butter there is a row, and very often we have the greatest difficulty in picking out butter for them. Manchester likes it better coloured, and Oldham still more coloured, while in the South of England they will not take pale butter at all. The greater part of the people must have a nice straw colour, while in some parts they want a much higher colour. You cannot possibly get that except by using colouring. Therefore those who have a scattered trade, north, south, east, and west, say that colouring is absolutely necessary.

Questioned as to whether the colouring could not be obtained in any other way than by the addition of colouring matter, Witness said he did not think so except they had all Jersey cows. In the factory trade it would be very difficult, because perhaps 300 farmers would bring in butter of fifty different colours, and they had to blend those colours to send to different districts. There were factories in Limerick and Dublin where a good deal of margarine was made, and in two of them butter was also made. The butter trade of Ireland had no objection to margarine as such, but they objected to the fraudulent sale of margarine as butter.

Dr. Tunnicliffe: Have you ever had a complaint of preserved butter going wrong?—I never had a complaint of it.

One pound of preservative to 112 lbs. of butter would be about 1 per cent.—It never works out at more than 0·8 per cent.

Has any attempt ever been made by those interested in Irish butter to get cold storage?—I do not know. I know some creameries are putting up refrigerating plant, but I do not think they are very successful.

Your view is that, in the present state of the dairy education in Ireland and imperfect methods of transit, you think preservatives absolutely necessary?—Yes; for the sake of the consumer quite as much as of the makers.

Dr. Bulstrode: You think there is considerable difference in the way Danish butter is handled in this country to the way Irish butter is handled?—Yes.

And you attribute that to the efforts of Mr. Faber?—Yes, and the interest the Danish Government takes in this subject of dairying.

In other words, to having an active representative in England to look after interests?—Yes.

Should you not follow the example of Denmark and look after your interests?—Undoubtedly the Government should do so.

Is there any great necessity, from the point of view of the public, that butter should be kept more than three weeks?—Yes. If we produce 19,000 or 20,000 tons of butter more than our usual supply, what is to be done with it? It must be kept over until there is some demand for it.

If your people were better educated you could do without preservatives?—Not unless the other "ifs" were in also. If our butter were consumed in a short time, and everybody knew that our butter would not keep, and that they would have to use it at once, then of course we could do without it. But we have always had the name for keeping butter, and we have to make it to keep.

#### DR. ALFRED GRUNBAUM'S EVIDENCE.

Dr. A. Grunbaum, of University College, Liverpool, said that while visiting the Continent he had made inquiries into the Food Acts of France, Belgium, Germany, and Austria. In Prussia preservatives in milk and wine were prohibited, as was also the addition of sodium sulphite to mince meat. That was a meat largely used by invalids, and prosecutions were frequent. In Austria there were bye-laws against the use of preservatives.

The Chairman: The general drift of public opinion throughout Germany and Austria is against the use of these preservatives?—Yes; and as regards meat they are now working out a law in Prussia in which the addition of preservatives to meat will in all probability be prohibited. In Switzerland there is a direct enactment against the importation of meat which is preserved.

Does that mean that bacon cured with salt or saltpetre and afterwards packed in boxes with borax will not be admitted?—If they prove the presence of the borax in the meat.

The object is the protection of the consumer against taking borax compounds with his food?—Yes.

By Dr. Bulstrode:—There were certain decrees in Austria prohibiting the addition of preservatives. In Hungary a law was being prepared to exclude preservatives. The reason that preservatives in milk were prohibited in Germany was that it was thought they might prove injurious. Sodium sulphite made old minced meat look like fresh, and the general trend of medical evidence in regard to the addition of such a substance to food was that it would cause diarrhoea and indigestion. In one case where it was found that 0·8 per cent. had been added the courts held that such a quantity was not injurious to health, and dismissed the case. With regard to the use of copper for colouring peas, in Germany it was held that the quantity required was so small that it would not have any bad effect,



Dr. Bulstrode : Is any standard laid down?—That I do not know.

At any rate in Germany the use of copper in peas is not prohibited?—Not in minute quantities.

Do you know that Austria does at present prohibit its use, but that it is possible it will be shortly allowed again?—No; I do not know that.

Did you find in Germany that there was any strong feeling in the medical profession?—The medical profession seemed to think very strongly that the addition of preservatives was undesirable.

On what grounds?—Firstly because they could not know when their patients were taking it, and secondly on general principles.

Asked by the chairman if he had any general statement to make, Witness said it seemed to him on general grounds that preservatives should be forbidden, because, as far as they knew, what was injurious to the bacteria was also injurious to highly developed organisms. Although in the latter case they were capable of replacing them, still the higher developed organisms should not be called upon to replace cells destroyed by disinfectants. He should object to boracic acid—borax he was not so certain about. In the event of preservatives being allowed he would think advantage would be gained by a notification of their presence.

#### PROFESSOR ATTFIELD'S EVIDENCE.

Professor Attfield, F.R.S., said that for many years he had been a dyspeptic, and had brought all his chemical knowledge to bear upon the matter with a view to obtaining alleviation. In his treatment he had had the advice of the late Sir W. Savory, the late Mr. Habershon, the late Sir Richard Quain, and Sir T. Lauder Brunton. They advised him to use antiseptics to prevent that unnatural decomposition of food in the stomach. The antiseptics that he had used were carbolic acid, sulphurous acid, and boric acid. The quantity of boric acid he took was from ten to fifteen grains three times daily. By way of pure experiment he had taken boric acid in much larger quantities—as much as sixty or seventy grains a day, but the smaller quantity was quite sufficient to prevent the abnormal decomposition of food in the stomach. He peppered the boric acid on his food—green vegetable food especially.

By Dr. Bulstrode : The medicinal dose of boric acid had been reduced in the British Pharmacopœia from twenty to thirty grains

to five to fifteen. That had been done simply because it was found that the smaller dose produced exactly the same effect as the larger.

He saw no objection on principle to make it compulsory on the vendor to declare the presence of a preservative, but he thought it would be rather difficult to carry out such a regulation. He did not see that salt was any more a food than boric acid. He had never come across any hurtful colouring matters used in food. He had had some experience of copper in vegetables. He had been the chemical adviser to a very large firm who sold canned, bottled, and preserved fruit, and who manufactured jams, pickles, &c. They had to import vegetables, chiefly French pickles, which were highly coloured, and they objected to handle any goods that were coloured with anything that was at all harmful. He had examined such goods from time to time, and he could never find more than a trace of copper. His opinion was that the copper was not added, but that it got in from manipulating the vegetables in copper vessels. He had never yet come across a case where copper was added to colour vegetables. The firm he had referred to never added any copper sulphate, but they and all other such firms commonly used copper vessels in making jams, and, as some fruit juices were a id, he had wondered whether such preserved fruits would, if examined, show the presence of copper. He had examined samples of such fruits over a series of years, and he only once detected copper, and then it was a very minute amount. As far as he could ascertain from inquiries he made at the firm, the copper arose from the fact that the man who had to clean the copper steam pans had been careless, and had left a certain amount of greenness on the upper part of the vessel, which would have got dissolved.

#### MR. RADCLIFFE COOKE, M.P., ON CIDER AND PERRY.

Mr. Radcliffe Cooke, M.P., said he was a maker of cider and perry. Cider had been made at his place for over 200 years. His father before him made cider, and he now made it on a fairly large scale—from 15,000 to 20,000 gallons a year. He had never used preservatives of any kind in his factory. He was aware that many cider manufacturers used preservatives, either salicylic acid or boric acid.

In answer to Dr. Bulstrode, Witness said there was no doubt that in some instances preservatives were used as a substitute for cleanliness. He would like to see their use prohibited; but, at all events, if allowed their presence should be declared on the label.

## Official Reports and Notes.

### The Stamping of Weights and Measures.

At the Board of Trade, on February 26th, Mr. Ritchie received a deputation from the County Purposes Committee of the Corporation of the City of London in reference to the stamping of weights and measures.

The City Solicitor (Mr. Crawford) said that up to the passing of the Weights and Measures Act, 1899, which provided that weights and measures already stamped could be used in the City without requiring the express stamping of that authority, the City enjoyed the exceptional privilege of having the right to insist that all weights and measures used in the City should bear the City stamp. The City complained of the way in which this Act was carried out by some local authorities. Certain authorities were, particularly in Northumberland, first of all allowed discounts where the stamping took place upon the manufacturer's own premises. The London County Council considered it expedient, with a view of keeping the trade to London to reduce the charge from 1s. to 6d. The City addressed the Board of Trade on the subject, and the County Council then agreed to revert to the old charge, but shortly after determined to make no charge at all, but instead to charge 4½d. per dozen on glass measures for unpacking and repacking. For the protection of British industry, it would be far better not to have such a system, because foreigners were able to import their glass measures and get them stamped by the County Council merely at the cost of this packing charge; whereas, if they had to pay the statutory fee, undoubtedly the British manufacturer would be able to hold his own.

Mr. Ritchie, in reply, said with regard to the stamping of glass measures, there was no doubt that it was a

very unsatisfactory and a very inconvenient thing that within the area of London there should be two different scales of fees, because, after all, it came to that. He should not like to say whether the position of the County Council was legal or otherwise, but there was certainly something more to be said for the County Council's present position than if they had charged a reduced fee. If the contention of the City of London was right there was no necessity for new legislation on that subject. If the County Council were evading the law, why did not the City go before the Local Government Board auditor and plead that the County Council were not collecting fees on behalf of the ratepayers of London, which they were not only entitled to collect, but which, according to the City, they were compelled to collect?

The City Solicitor said that the Corporation would nothave any *locus standi* before the auditor.

Mr. Ritchie said they had lots of ratepayers in the City who were ratepayers also in the county, and the matter could be brought before the auditor in that way. If some general Bill on weights and measures were required in the public interest it might be comparatively easy to put this question of the stamping of glass measures into such a Bill; but he was not aware that there was any such public demand, and therefore he could not undertake any legislation on the subject. However, he would address a communication to the London County Council, drawing their attention to the representations made to him by the City.

Major Wallington, having thanked Mr. Ritchie for his courtesy, the deputation withdrew.



### Jeyes' Disinfectants.

THE Annual General Meeting of the Jeyes' Sanitary Compounds Co., Ltd., was held last week at 64, Cannon Street, London, E.C. After making provision for depreciation, etc., and placing £3,500 to reserves, a dividend was declared at the rate of 10 per cent. per annum, together with a bonus of 5 per cent., the whole free of income tax. A balance of £1,789 13s. 11d. is carried forward to new account.

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### Sanitary Inspectors' Conference.—A Visit to "Izal" Works.

THE annual gathering under the auspices of the Sanitary Inspectors' Association, was held at Sheffield, on February 10th, and was largely attended, amongst those present being Mr. T. Pridgin Teale, M.A., M.B., F.R.S., president of the association, Mr. W. Wilkinson, Associate of the San. Inst., chairman; Mr. Joseph Lindley, Associate of the San. Inst., hon. secretary; Dr. Robertson, Medical Officer of Health for the City of Sheffield; and representatives from Leeds, Middlesbrough, Harrogate, Aitofts, Batley, Wakefield, York, Rotherham, Rawmarsh, Hull, Tadcaster, Huddersfield, Denby Dale, Brighouse, Wombwell, Upper Toothill, Burley-in-Wharfedale, Skipton, Hemsworth, and Sheffield.

The members met at the Town Hall, at half-past ten, and half an hour later proceeded by special train to the works of Messrs. Newton, Chambers and Co., at Chapel-town. Here they inspected the special plant used by the firm for the manufacture of the well-known disinfectant, "Izal." This non-poisonous disinfectant is a new substance obtained from coal, during a special process of coke making, and so convinced are the War Office Authorities of its value as an efficient disinfecting fluid, that they have ordered sufficient to make over six million gallons for use of the army in South Africa. After an inspection of the works, the members of the association were entertained to luncheon in the Workmen's Hall, Mr. T. C. Newton, chairman of the company, presiding.

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### An Ingenious Weighing Machine.

AN ingenious improvement in scales for grocers, butchers, and other tradesmen has been introduced, which simplifies the calculations which perplex purchasers and open the door for endless errors and overcharges on the part of the shop assistants. The new scale is called "the computing scale," and is so arranged that the operation of weighing an article in pounds and ounces also mechanically determine the exact money value of the weight. This is secured by a sliding scale which can be readily set to deal with goods at any price per pound from a farthing or other fraction of penny up to 3s. The arrangement, which is very ingenious, was the invention of an Englishman, but it has been taken up by an American firm, at Drayton, Ohio, from which place comes also the self-registering money-drawer.

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### Analytical Appointment in Belfast.

THE Public Health Committee of the Belfast Corporation have reported that since the death of Professor Hodges, F.I.C., city analyst, they have made inquiries as to the terms on which public analysts hold their appointments, and recommend that the chemist to be appointed should be paid a salary of £200 a year and £50 a year for materials; that the fee for analysing samples for other boards or for the public be fixed at 5s. for each analysis; and the fee for attending the Law Courts in connection with the prosecutions other than those in which the Corporation are directly concerned be fixed at £1 1s. The Council resolved to advertise for candidates for the vacancy, but it was thought the salary was not sufficiently large to tempt a man to give his whole time to the work. The report was adopted.

### Hastings and Adulteration.

THE Public Analyst reported that during the quarter ended December 31st, 1899, articles had been submitted to him for analysis as follows:—Butter, 10; one 80 per cent. of foreign fats, vendor fined 10s. and costs; one 70 per cent. of foreign fats, vendor cautioned; others genuine. Lard, 6; genuine. Milk, 15; two poor. Spirits, 7; one 32 u.p. and one 30 u.p.; vendors fined 2s. and costs and 5s. and costs; others genuine. Tapioca, 1; genuine. Pepper, 1; genuine. Total number of samples analysed during the quarter, 40; number of samples adulterated, 4.

The Public Analyst's report for the year 1899 contained the following:—

"During the year 1899 you have submitted 149 samples to me, under the Sale of Food and Drugs Act, made up as follows:—Milk 67, adulterated 2; skim milk 5; butter 31, adulterated 4; lard 15; spirits 21, adulterated 5; ginger 5; sugar 1; pepper 3; tapioca 1. Three milks and one butter were returned weak or suspicious. This is a decrease on last year's totals, owing chiefly to a temporary increase in another department of the Inspector's duties. The still further improvement in the milk standard, which is high in this town, is very gratifying. In a few cases of adulterations, cautions have been issued to vendors, but in most prosecutions have been instituted, all of which have been successful, and resulting in fines varying from 5s. to £2 and costs.

\* \* \* \*

### The Working of the Adulteration Acts in Surrey.

#### A HIGH EULOGY OF THE COUNCILS INSPECTORS.

At the last meeting of this County Council Mr. Skewes-Cox said it was perfectly true they might not have taken so many samples as some counties. But their inspectors did not go in a haphazard sort of way where they were known to every shopkeeper as well as he was known in Kingston (laughter); they sent somebody else, and every opportunity was taken advantage of to endeavour to find out where there was adulteration. In some counties thousands more samples had been taken than in Surrey, and a less number had been found to be adulterated, but they in Surrey rejoiced that their county stood in the position in which it appeared in the return the committee made. In England one sample were taken for every 585 of the population; in Surrey one for every 389. The proportion of samples adulterated per cent. was as follows:—Berks, 5·3; Bucks, 9·5; Hants, 5·1; Kent, 7·1; London, 11·5; Middlesex, 4·7; Surrey, 9·2; East Sussex, 2·8; West Sussex, 6·7. With regard to Surrey's figure of 9 per cent., of course, Mr. Skewes-Cox remarked, their inspectors from time to time had information that they might find at certain places samples which were adulterated, and they went there and found that was the case. *The committee commended their inspectors to the council for the active way in which they performed their duties. They were a set of high-class educated men, who had a difficult task to discharge, and who must in the course of years become personally acquainted with every trader in the place, and Surrey stood very high in the number of samples they had obtained, having regard to the percentage of cases of adulteration which had been detected. That was what the county desired. They were more than satisfied with the way in which the Acts had been carried out. With regard to the new Act, the Council would observe that the committee had accepted the opportunity of conference mentioned in the report.*

The Chairman said it was impossible for any public authority to have more intelligent or active officers than this council had, or men who carried out their work with greater discretion; and the county might congratulate itself that they were of such a character. *Thanks to the efficiency and zeal of the inspectors, the people the council had to protect, viz., the ordinary poorer classes in the county, were protected to the utmost extent that the power of the law gave them.*



## Gold Storage Notes.

### An Enormous Cold Storage Plant for the United States Government.

THE United States Government are erecting the largest cold storage plant in the world at Manila, the object being to have a store capable of holding sufficient fresh food to feed 10,000 soldiers for three months. The building will be 245 feet square, and two stories high. The ice-making plant will have a capacity of 40 tons a day. The food it is intended to hold comprises 1,200 tons of beef, 200 tons of mutton, 50 tons of butter, 100 tons of potatoes and onions, and 100 tons of bacon, besides a goodly supply of eggs, pork, and a number of other perishable foods. The building is to cost about £100,000.

\* \* \* \*

### Cecil Rhodes and Cold Storage.

MESSRS. L. STERNE & Co., LTD., of The Crown Iron Works, Glasgow and Donington House, Norfolk Street, London, write the *Daily Telegraph* of 17th February, in its story of the siege of Kimberley, gives a few picturesque incidents, not the least striking of which is the sketch of Mr. Cecil Rhodes as the centre of the social life of the erstwhile besieged community. He is narrated as giving little dinner parties, where there was no lack of champagne with lots of ice to cool it, thanks (says the "D.T." special) to the provision of a refrigerating plant. What a boon it must also have been to the sick and wounded! Little did the De Beers Consolidated Mines Company think, when they ordered this 10-ton plant from L. Sterne & Co., Ltd., about two years ago, that it would be requisitioned within such a limited space of time for the purposes named. We think we have given the first recorded services of a refrigerating plant at work in a besieged city.

\* \* \* \*

### Cold Storage for Doncaster.

At a meeting of the Doncaster Town Council, held on February 14th, the Market Committee recommended that the site of the old theatre should be utilised for a cold meat store, an underground lavatory, cellars, and weighing machine at an estimated cost of £2,500. Alderman Athron proposed that the recommendation be postponed, but on a vote the Council adopted the recommendation.

### Electric Power and Cold Storage.

MESSRS. HANDLEY AND SHANKS, of Dublin, write:—"We notice in the *Electrical Review* an account of the electric power installed in a new ice making factory and cold storage at Birmingham, which it is claimed is the largest installation of its kind in the kingdom. This, we think, is wrong, as we ourselves about 12 months ago fitted up, for power and light, the whole of the works of the Cork Cold Storage and Ice Making Company. This firm uses motors for all purposes. The compressors, of which there are three, are driven respectively by 25 H.P. motors, whilst agitators, gantry, elevators, fans, and pumps are all actuated by independent motors. The aggregate of the power used is about 130 H.P., and we believe it represents the largest power installation at present in this country."

SINCE the above our contemporary has received the following letter:—

"We notice in your issue of the 9th ult., under the heading 'Electric Power and Cold Storage,' a letter from Messrs. Handley and Shanks, of Dublin, commenting upon your note in the previous issue of your valuable paper upon the cold storage installation at present put down for the Birmingham Cold Storage, Limited. We would point out that your note, as far as we are aware, was absolutely correct, and that had your correspondents read it carefully, they would not have written in the tone they have. The Birmingham installation is in no sense an ice-making factory, as they assume, and is, as mentioned, for the cold storage of hops. The total H.P. at present installed is 82½, and space is provided for doubling the plant should it be required at a future date; if we substract the power installed for ice-making plant, elevators, agitators, and gantry, none of which are required in hop cold storage (an existing hydraulic lift being utilised), we maintain that this installation is not only the largest electrically-driven cold store in the country, but the largest in the United Kingdom.

Yours faithfully,

HARRAP, HEWETT & DUFFIELD."

P.S.—The total cubic capacity cooled is three-hundred-and-sixty-thousand (360,000) cubic feet."

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**BUTTER AND MARGARINE PROSECUTIONS.**—At New Mills Petty Sessions, John Lomas, grocer, High Street, New Mills, was summoned for exposing margarine for sale not properly labelled. Inspector Stead-Crabtree entered the shop and saw two piles of butter, one of which was labelled "margarine." He asked for half a pound of butter at 10d., and Miss Lomas served him from the lump labelled "margarine." He declined to accept that, and asked for half a pound at 1s., and Miss Lomas thereupon gave him some from another pile that had no label upon it, but it was enclosed in a margarine paper. The Inspector added that he was sorry to have to prosecute the defendant, who, he said, had really been supplied by the wholesale dealer under false pretence. Miss Lomas, who appeared on behalf of her father, said the margarine, although in the shop, was not exposed for sale. They used it for pastry, and did not sell a pound a fortnight. They had nowhere to keep it but in

the shop. As the costs, which amounted to 20s., were heavy, the Bench imposed a fine of only 2s. 6d.

At Bury, on February 15th, Elizabeth Jane Barlow, 145, Bolton Road, Radcliffe, was summoned for selling butter which was adulterated with upwards of 50 per cent. of fats other than butter, contrary to Section 6 of the Foods and Drugs Act, and was also summoned for selling margarine in a plain wrapper. Mr. Bertwistle appeared for Mr. W. J. Parkinson, of Preston, inspector of Foods and Drugs to the Royal Lancashire Agricultural Society. Mr. Sharples appeared for the defendant, and Mr. S. F. Butcher appeared on behalf of the wholesale dealer, Mr. O'Rourke, Bury. Mr. Parkinson stated that he formally bought a pound of butter on January 18th, which, when analysed, gave 12 per cent. water and over 50 per cent. fats other than butter. Mr. Sharples stated that the margarine was bought and sold as butter, and submitted that the invoice was a warranty that it was bought as butter. Mr. Butcher, on behalf of the wholesale dealer, took the whole of the responsibility. Mr. O'Rourke, his client, had sent margarine in a mistake. It appeared that he kept a stock of butter in a shop in the market, and when this particular order came he was very busy—it was Christmas time,—and he sent a lad down, who took margarine by mistake. Mr. O'Rourke gave corroborative evidence. Both summonses were dismissed against Mrs. Barlow, and by consent Mr. O'Rourke was then proceeded against. No



further evidence was produced, but Mr. Butcher mentioned that Mr. O'Rourke would have to pay the costs in the other case. O'Rourke was fined £10 and costs. Mr. Butcher asked for a reconsideration of the fine, as any man could make a mistake. The Clerk said that the magistrates did not believe the explanation. Mr. Butcher thought that it was an extravagant penalty. The Chairman said that they could not alter their decision, and were not called upon to give an explanation.

At Kensington Petty Sessions, on February 20th, Sidney James West, 112, Blythe Road, Hammersmith, was summoned for selling butter adulterated with 43·67 per cent. of margarine. A second summons charged the defendant with serving the article in a plain wrapper. A boy named Cross stated that he went to the defendant's shop and asked for half a pound of shilling butter. He was served by the defendant from behind the screen on the counter, and no remark was made to him at the time. Defendant said he could not account for the offence, but supposed the margarine got mixed up with the butter. The Magistrate said unfortunately for you, this is the second case of the kind against you. You will be fined £3, with costs, for selling this article as butter, and 10s. for serving it in a plain wrapper.—Daniel Kellett, of Kellett and Firth, grocers 59, Masborough Road, Hammersmith, W., was summoned for selling butter adulterated with 74 per cent. of fat other than butter fat. There was a further summons against the defendant for exposing the article without proper notification as to its nature, and a third summons for serving it in a plain wrapper. The three offences were proved by Inspector Oatley and Cross who acted as his deputy. Mr. W. P. Cockburn, vestry clerk, stated that the defendant or his firm had previously been convicted by the Bench and also at the West London Police Court with respect to similar offences. The Defendant: But only twice in sixteen years. How many times have we had samples taken which were found to be all right? Mr. Cockburn mentioned that the maximum penalty, under the new Act, to which the defendant was liable was £100. The new Act had considerably increased the amount of the penalty in respect of such offences. Fined £5 and costs for the sale, 20s. and costs for the exposure, and 10s. and costs for serving the article in a plain wrapper.

At Worship Street Police Court, on Feb. 22nd, Sarah Jones, 181, Bethnal Green Road, for selling as butter an article which proved to be all margarine, was fined £3 and 12s. 6d. costs. Mr. Ricketts, solicitor for the defence, said that his client was the victim of a system which choked the trade of this country in home made produce, the British matron having almost forgotten what pure English butter was.

At Handsworth, on February 16th, Ann Jones, 35, Junction Road, was ordered to pay the costs 18/- for exposing margarine without having a label attached to the same.

MILK PROSECUTIONS.—At Manchester, on February 21st, Mary Pendlebury, of Collyhurst Road, was fined 2s. 6d. for selling to Inspector Holland, on the 11th ult., milk containing 5 per cent. excess water and 20 per cent. fat abstracted. Edward England, of Hannah Street, was fined 5s. and costs for selling milk which had had 9 per cent. of fat abstracted. Agnes Rudford, of Rolleston Street, was fined 2s. 6d. and costs for selling to Inspector Houlston, on the 2nd ult., milk containing 11 per cent. excess water; and William Done Junior, farmer, of Swettenham, Congleton, was fined £15 and costs for consigning to a Manchester dealer, on the 11th ult., three cans of milk which had had water added to the extent of 11 per cent., 10 per cent., and 6 per cent. respectively. Mr. T. A. Rook, superintendent of the Sanitary Department, prosecuted on behalf of the Sanitary Committee, at whose instance the summonses were issued.

At Gosport Petty Sessions, William Christopher Forton, was charged on the information of Charles Edward Davis, inspector of weights and measures, with selling milk from which 17 per cent. of cream was abstracted. George William Hayles, assistant to Inspector Davis, deposed that he purchased a pint of milk of a woman at defendant's shop on the date mentioned. Inspector Davis corroborated, and produced the analyst's certificate. Defendant said that he sold the milk exactly as he received it, and handed in a written warranty. The inspector contended that the defence did not hold good, as defendant should have given seven days' notice of his intention to put in the warranty to him and to the person by whom the warranty was issued, and also furnish the address of the latter. Defendant had been convicted on five previous occasions for similar offences, and was now fined £6 and 19s. 6d. costs.—Alice Eldridge, of Queen's Road, Gosport, was summoned for selling a pint of milk on the 17th ult., from which 20 per cent. of fat had been abstracted. Defendant pleaded not guilty. Evidence was given by Inspector Davis and his assistant to prove the purchase and the adulteration of the milk. The Inspector said he wished to point out to the Bench that there were extenuating circumstances, and that the defendant, who bought only a small quantity at a time, believed that the milk was pure. No previous conviction was recorded against the defendant. She was fined 12s. and 18s. 6d. costs.

At Handsworth, on February 16th, Richard Biddlestone, 203, Wattville Road, was fined 2/6 and £1 2s. 6d. costs for selling on the 9th January, milk from which 11 per cent. of its original fat had been abstracted.—For a similar offence on the same day Rose White, 71, Junction Road, was likewise fined.

ROTTEN TINNED MEAT PROSECUTION.—At Folkestone, on February 19th, Walter John Miles, grocer, Black Bull Road, appeared, charged with selling unsound tinned meat. Mr. Kidson, Town Clerk prosecuted, and Mr. Atkinson appeared for the defendant, who pleaded guilty.—The Town Clerk said Mrs. Wonfor sent her boy to buy a tin of meat from the defendant's shop. That tin was returned (because the contents were bad) in exchange for another. The defendant was in the shop when the first tin was brought back, and said, "What can you expect for a penny?" a remark which would almost suggest that he knew he had sold what was bad, or what he anticipated might be bad. The penny tin weighed 2½ oz., while a tin of Lazenby's, weighing 4½ oz., was sold for 5½d. He argued from that fact that the defendant could not sell a fair article for a penny.—Inspector Pearson received a tin of diseased meat from Mrs. Wonfor on February 9th. The meat was condemned by the medical officer of health. At Mr. Miles's shop the inspector examined two tins of ham and tongue, one of beef, two of tongue, and two of veal and ham, a total of seven. He found the meat inside in a stinking condition and unfit for the food of man. The defendant smelt the contents of one tin, and said he would not like to eat it himself. These tins were condemned by the medical officer. Eleven tins were shown to the inspector altogether, only four of which were not "blown." The inspector intentionally picked out the blown ones.—Mr. Atkinson said he had instructed his client to plead guilty. The tins in question were purchased from Mr. Iverson, wholesale and retail grocer, Dover Street. They were sold more because there was a demand for them than because of greed of profit. Mr. Miles only made 2d. a dozen. There was a difficulty in telling the meat was bad, and he had not erred intentionally. As to the comparison with Lazenby's tins he did not think it could be urged fairly, because it was perfectly well known that those who went for a first-class brand paid for the "name." Tinned meats were liable to go bad in hot weather. The Chairman said defendant ought to examine what he bought. The Bench fined defendant £1 and 14s. costs for selling, and for the offence for exposing for sale 10s. each for the seven tins.—Charles Richard Iverson, wholesale and retail grocer, Dover Street, was charged with exposing unsound meat for sale. He pleaded not guilty. The Town Clerk said Inspector Peterson went to Mr. Iverson's shop and an assistant showed several brands of tinned meat and was asked for the penny tins. Pearson afterwards followed the assistant upstairs, and saw something like fifty penny tins. Several "blown" tins were opened, and the contents found to be bad. Inspector Pearson said the assistant first showed him some tins at 5½d. The penny tins he opened were stinking, and the contents unfit for human food. The penny tins were left about upstairs as if intended for sale. Cross-examined: Bad tins of meat should be thrown in the dustbin. He considered he was justified, as inspector, in going upstairs. Mr. Atkinson, in defence, submitted that no case had been made out against his client. The tins found upstairs were not intended for sale. They were waiting for the arrival of the traveller, in order that some allowance might be made for them. Mr. Iverson deposed that it was his custom to return bad tins when the traveller called. No allowance was made unless the traveller saw them or they were returned. He had no personal knowledge of the sale of tins to Mr. Miles. He did not like the penny tin trade. Henry Warren, manager, stated that the "Star" penny tins in question were only purchased to meet the demands of people who asked for them. He had strict orders not to sell the bad tins, retail or wholesale, about the latter end of October. James Chadwick, an assistant in Mr. Iverson's warehouse for six or seven years, said he made up the parcel of tins for Mr. Miles thoughtlessly, though he had been ordered not to send the bad ones out. His orders were to make up "three dozen penny pastes." The Court decided, after retiring for consultation, that Mr. Iverson had no personal knowledge of the sale of unsound meat to Mr. Miles, but at the same time they thought he was liable for his manager. They fined him £1 in each case, a total of £9, and costs.

DISEASED MEAT PROSECUTION.—In Aberdeen Police Court on February 15th (Baillie Brown on the bench), Hugh Anderson, butcher, Inverurie, was charged with having in his possession a carcase of beef intended for, or in preparation for, sale for human food, for which purpose it was unfit, the meat being diseased and unsound. He pleaded guilty. Mr. Alex. Charles, solicitor, Inverurie, on his behalf, said Anderson purchased the heifer for £17. It was sent to Aberdeen and was killed on the following day, but the carcase was seized before accused saw it. The fact that Anderson paid £17 for the animal showed that he bought it for a good purpose, and having paid a sound price he was entitled to consider that he had got a sound animal. In the whole circumstances, Mr. Charles thought Anderson was quite innocent of wilfully being in possession of unsound meat. Mr. R. Lamb, procurator-fiscal, said Anderson was not quite so innocent as Mr. Charles sought to make out. The lining membrane in the carcase, which showed the traces of tuberculosis, was stripped off for the purpose of obliterating these traces. Then, accused roundly abused the inspector who seized the carcase, and that did not seem to be consistent with innocence. Baillie Brown said another bad feature of the case was that, though the man who killed the animal told Anderson that it would be seized, and warned him to destroy the carcase, accused declined to act on that advice. He would be fined £5, and 26s., with the alternative of 15 days' imprisonment.



**OBSTRUCTING AN INSPECTOR.**—At Biggleswade, on February 21st, Harriett King, of Muggerhanger, was fined £5 and costs for obstructing or impeding an inspector in the execution of his duty. The complainant's evidence was that, after being supplied with threepennyworth of whisky from a small keg in the bar, he asked for a pint for the purpose of analysis, but Mrs. King, who was serving, said there was not enough in the keg, though the tap had run freely; and, in spite of his protest, took the keg away without allowing him to look at it.

**OLIVE OIL PROSECUTION.**—At Ramsgate, on February 20th, Ernest Scruby, grocer, at Minster, was summoned for selling adulterated olive oil. The Inspector purchased several articles, amongst which was a flask of "olive" oil at 4½d. The witness said he specially asked for olive oil, and the defendant said he could supply it. The sample was certified as consisting entirely of cottonseed oil. Superintendent Chaynev told the justices that the county police had received orders to take frequent samples of oil, there having been numerous complaints as to the oil sold as "olive." The defendant said he purchased the stock-in-trade of the shop in bulk, and did not know whether the oil was olive or not. He certainly did not say that it was, and when he made up the bill he distinctly said, "One flask of oil, 4½d." The Justices said it was defendant's business to know the law. He would be fined £4.

**CAMPHORATED OIL PROSECUTIONS.**—At Swadlincote, on February 20th, Samuel Kirby, Overseal, was summoned for selling camphorated oil not prepared in accordance with the "British Pharmacopœia," on December 11. Mr. White, public analyst, pointed out that there should be no mineral oil present in camphorated oil, whereas there was 35 per cent. in the sample in question. Defendant was fined 2s. 6d. and 18s. 6d. costs, the Chairman saying the bench did not think he had wilfully broken the law, and advised Kirby to sue the wholesale dealer.

At Worksoy, on February 21st, Richard Chambers was summoned for selling camphorated oil which was not of the quality specified by the Act of Parliament. Inspector Crabtree proved the case, and stated that he had purchased the whole of the camphorated oil the defendant had in stock. He thought the defendant was not as responsible as the wholesale house that supplied the oil. The Bench fined the defendant £1, and expressed the hope that in the interests of the public defendant would sue the wholesale firm for damages.

At Lambeth, on February 22nd, Thomas Tyrrell, chemist, Southampton Street, Camberwell, was summoned at the instance of the Camberwell Vestry for selling camphorated oil which was not of the nature, substance, and quality of the article demanded by the purchaser. Mr. G. W. Marsden, solicitor, supported the summons, and Mr. H. I. Sydney defended. On January 24th, Inspector Groom, one of the Vestry's officials, caused a sample of camphorated oil to be purchased at the defendant's shop. The article supplied was submitted to Dr. Frank Teed, the public analyst, who gave a certificate showing that it contained 80 per cent. of mineral oil. The British Pharmacopœia required that camphorated oil should be made in the proportion of one ounce of camphor dissolved in four fluid ounces of olive oil. Dr. Teed pointed out that mineral oil was very much cheaper than olive oil. Mr. Sydney said his instructions were that the defendant kept two kinds of camphorated oil, one for retailing and the other for use in rheumatic liniment. They both stood on the same shelf, and the defendant, who was old and near sighted, served the Inspector from the wrong bottle. The defendant, who had been in business for fifty years, and had never been summoned before, desired, through him, to express sorrow that such a thing should have occurred. Mr. Hopkins regarded the case as a bad one, and ordered the defendant to pay a penalty of £20 and costs.

**SPIRIT ADULTERATION PROSECUTIONS.**—In Edinburgh Sheriff Court, on February 22nd, Robert Gunn, publican, Grassmarket, Edinburgh, denied having sold on 30th December to an inspector under the Foods and Drugs Act, whisky of less strength than 25 degrees under proof, namely, 27·5 thereunder. The liquor was sold at the rate of sixpence a gill. The barman deposed that he mixed sixteen gallons of whisky with nine gallons of water. According to the trade hand-book, he could have added one quart and one pint more of water to reduce the whisky, which was 19·8 degrees over proof, to 25 degrees under proof. The cask in which the whisky was mixed had never been used for whisky before, and water had stood in it for some time. Sheriff Maconchie found the charge proved, but said he did not for a moment think this was a serious case in the view that fraud was intended. He passed sentence of 30s. with expenses, or ten days—Robert Kennedy, senior, spirit dealer, 167, Pleasance, Edinburgh, admitted a similar contravention on 2nd January, the whisky being 28·73 below strength. An agent stated that his client succeeded his mother. The business had been carried on in an old-fashioned style without a hydrometer. The spirit merchant had stated that the last consignment of spirits respondent had received was old whisky, and consequently not so strong. The same sentence (30s. with expenses) was imposed.

**WEIGHTS AND MEASURES PROSECUTIONS.**—Earl Waldegrave and his local manager were summoned at Bath on February 21st for selling coal from a vehicle which did not notify the tare weight. The coal was delivered to the Royal United Hospital one hundred-weight short. The solicitor for the defence argued that a firm of

such magnitude as his lordship's would not wilfully defraud the hospital, which he promised should be recompensed. The magistrates dismissed the case against Earl Waldegrave, who, they thought, knew nothing about the omission, but fined the local manager £5.

At Glasgow, on February 20th, Archibald Smith, grocer and provision merchant, residing at 310 Cathcart Road, was charged at the Southern Police Court, before Bailie Cleland, with a contravention of the Glasgow Police Act, 1866, section 189, with having made up, kept or exposed for sale on Wednesday, 17th January last, at his shop, 163 Waddell Street, S.S., two bags of tea, each represented to contain one quarter pound imperial weight, which were found on being weighed by an Inspector of Weights and Measures to be deficient of the quantity represented by 5½ drams 10 grs. and 4½ drams 1 grain respectively. Accused pleaded not guilty, and was defended by an agent. The inspector, in giving evidence on the charge, stated that he asked the shop assistant, a lad learning the business, if he kept any tea made up in packets. He produced two bags, and on being questioned by the inspector admitted that each bag contained a quarter lb. of tea, and would be supplied to a customer as it stood. Moreover, the inspector stated that even with the bag included there was a shortage of tea of 3½ drams and 2 drams 4 grains respectively. On behalf of the accused, the agent stated that the packets were made up by the shop assistant, as practice in making up tea, and the packages would be reweighed before handing to a customer. The Magistrate stated that it had been proved that the tea, even with the paper included, was short of the true weight, and he was bound to convict. Accused was admonished. The agent asked that a case be stated. Smith was also accused of having had in possession for use for trade five weights which were false or unjust, and contrary to section 25 of Weights and Measures Act, 1878, and two of the weights were unstamped, contrary to section 29 of the same Act. The principal errors were deficiencies amounting to 4 ounces 2 drams 16 grains and 3 ounces 4 drams 23 grains. Accused pleaded guilty, and his agent, in defence, stated that the shop had only been taken over a short time before on the belief, that everything was right. Accused was admonished.

At Dunblane Sheriff Court, on February 21st, John Miller, butcher, Thornhill, was charged with having in his possession for trade purposes, weights varying from 7 lb. to ½ lb., all of which were false and unstamped. He pleaded guilty, and was fined £1, or three days' imprisonment.—John Corser, jun., potato merchant, St. Ninians, Stirling, was also convicted of having in his possession at Deanston on the 25th ult., on a lorry, using thereon for trade purposes, a 14 lb. weight and a 2 lb. weight, which were false and wrong, and a set of scales which were unstamped. He also was fined £1, with the option of three days' imprisonment.

At Handsworth, on February 16th, Thomas Sherwood, baker, 120, Antrobus Road, was fined 2/6 and 11/- costs for selling bread otherwise than by weight.

At the Dewsbury West Riding Police Court, on February 23rd, Messrs. Thomas and Fred Stott, corn millers, of West Mills, Mirfield, were fined £3 and costs for having unjust weights in their possession. There were thirty-nine, ranging from the 56lb. to the 11lb. size, and several were very seriously inaccurate, one of the largest being more than 4lb. against the purchaser. The County Council inspector proved the charges. The defence was that the adjusting had been overlooked, and that there was no intention to defraud.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### Cambridgeshire County Council and the Adulteration Acts.

County Constabulary Office,  
Cambridge,

20th February, 1900.

Sir,—In your issue of 10th inst., you refer to some observations that fell from the Chairman of our County Council and foretell that Cambridgeshire may be one of the first Counties that the Board of Agriculture will stir up. Moreover, you say we have been in the black list of the Local Government Board for years, if so, no warning to that effect has reached us. I think we work up to the average; our County has a population just under 84,000, and in the quarter ended 31st December last, we submitted 29 samples for analysis, and in the year ended, same date, 119 samples had been analysed.



I think with this intimation you will qualify your remarks, for although we do not pretend that we are better than other counties, I will not admit that we are any worse, or require any pressure from a central department to make us do our duty.

Yours truly,

CHARLES STRETTON,

Chief Constable and Chief Inspector under Food and Drugs Act for Cambridgeshire.

THE reference to the County was a printer's error, it should have been the Borough, as will be seen from the concluding paragraph of the note on page 72, *Food and Sanitation*. During the past few years the County has ceased to merit the severe reproaches it once received. The Borough, however, has taken only from seven samples to twenty-four annually, and as a reference to the articles analysed shows has long needed official pressure. We apologise to Mr. Stretton for the error.—EDITOR.

### Weighing Paper with Sugar, etc.

Dear Sir,—I read with interest the letter and your reply in the last issue of *Food and Sanitation* on the question of weighing paper with sugar, etc. But I am bound to say it does not seem to be made quite clear yet, what the law is on this point.

In the case you quote as having occurred at Wednesbury, there are two points somewhat mixed up, and which I consider causes some confusion. The learned Stipendiary it appears had a case before him where a pair of scales were made unjust by having a piece of paper placed on the goods end of the scale. I have not got a report of the hearing of the case by me, but I think the paper was placed underneath the scale pan. The Stipendiary in giving his decision, referred to a case he had decided some time before at Wolverhampton, where the charge was laid under section 26 of fraudulently using the scales. In that case the defendant was convicted, but on appeal to Queen's Bench, the conviction was quashed on two grounds (1) That the purchaser saw the paper put on the scale and (2) It was stated to be the custom of the trade to weigh the paper wrapper.

Now to my mind this case is very different to the one decided at Wednesbury, although the Stipendiary appears to think they are somewhat similar. In one case the paper was exposed on the scale, and in the other it was concealed under the scale pan.

What we would like to see made quite clear is this— is it an offence under section 25 of the Weights and Measures Act to weigh paper with goods which are to be enclosed in the paper weighed with such goods, when the paper is exposed on the scale.

In the case of *Lane v. Rendall*, the paper was concealed under the scale pan, and of course the particular piece of paper weighed was not the same piece of paper actually used to wrap the article up in, but the Stipendiary at Wednesbury referring to this case stated "That it had been decided that the fact of putting a piece of paper on the scale made the scale unjust," and rendered the person liable

to be convicted who did this. But later on, when addressing the defendant, he said "You must understand that when you are weighing tea or any other article you must not put a piece of paper *under the scale*, or you are doing a thing which, according to law, is illegal."

Perhaps other people can see that the above cases clearly settles the point, but I am sure I cannot.

Yours truly,

F. G. BENNETT.

Warwick, February 26th, 1900.

MR. BENNETT's points deal, we think, more with the work of the Inspector than of the grocer or ordinary purchaser. The celebrated Lipton's tea case is that which perhaps illustrates best the point Mr. Kershaw's letter raised, and it will be remembered that the appeal was abandoned, no doubt, after full consideration. The custom of the grocery trade is to weigh and pack sugar, tea, rice, flour, etc., in the early days of the week in preparation for the rush of business on Friday and Saturday. The habit of the public is to ask for 4 ozs.,  $\frac{1}{2}$  lb., 1 lb., etc. of the various articles required. They are not, save in few instances, weighed in the customer's presence, and any grocer selling a pound of sugar which was only one pound when weighed with the paper included, would clearly be liable to conviction. (We may say our querist is a grocer and the reply accordingly was based on trade customs). The *Grocer* in its last issue says on this question "It is legal to sell sugar weighed in paper provided the purchaser does not object, and does not provide anything to wrap it up in." This rests upon the decision of the High Court of Queen's Bench given in the case of *Harris v. Allwood*. In that case the Wolverhampton magistrate had convicted Daniel Harris for weighing groceries with paper in the shop of Mr. George Snape. Allwood (the inspector) purchased from defendant (Mr. Snape's assistant) a number of articles, including tea, lump sugar, and raisins, which were weighed with the wrapper of paper, which was sold as part of the article purchased, the average weight of the paper being 10 drachms.

Mr. Justice Matthew said the court would not trouble Mr. Young further to argue the case. To his mind it was perfectly plain that this conviction must be quashed. There was no fraud here. To sell groceries weighed in paper was a practice universally understood all over the Kingdom and was a practice well known to buyers as well as to sellers. *The purchaser here saw the goods weighed in the paper and did not object*, being quite content to follow the practice. How was it possible to say there was any fraud in such a case; Mr. Justice Gainsford Bruce concurred. Conviction quashed accordingly.

This decision, says the *Grocer*, "Was equally good law and common-sense, for it is obviously to the public convenience that groceries and similar articles should be weighed with the paper in which the customer carries them away; and the public from time immemorial have been quite content with such an arrangement. Why the point should be again raised after being settled in such definite terms by the High Court more than seven years ago is what, as Lord Dundreary might say, no fellow can understand."

The point for grocers to note is, "The purchaser saw the goods weighed in the paper and did not object."

In the actual working of a grocer's business with a roaring trade on Friday or Saturday nights, and the bulk of the articles previously weighed and stacked ready for buyers, this decision would not shield the grocer because it is not his custom to weigh such goods in the presence of the buyer, and he could not carry on his business with the same ease and quickness if it were. Our reply was addressed more to the Grocer than the Weights and Measures Inspector."—EDITOR.



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## Food and Sanitation.

SATURDAY, MARCH, 10, 1900.

### The Budget and Pure Whisky and Beer.

Too LITTLE attention has been given in the discussion upon the Budget the encouragement the Inland Revenue Department and through it the Government gives to fraud which benefit foreigners and injure English industries. So far only one member of the House of Commons has directed the notice of Parliament to the question as it affects native distillers of pure whisky.

Major Jameson objected to the extra taxation of the whisky industry of Ireland as compared with the treatment of the 1,600,000 gallons of refuse imported into this country every year from Germany, Denmark, and Sweden, of which only

8,000 gallons were accounted for. No embargo was put upon that foreign spirit, and no announcement had been made as to increased taxation upon it. The Government ought to try and get a little expert knowledge as to what they were taxing. Instead of taxing the land on which the great distilleries of London stood the Chancellor of the Exchequer was going to tax an Irish industry which—next to Guinness's—employed the largest number of people in that country. He could not imagine that the Chancellor of the Exchequer would have taxed spirits in the way proposed but for the fact that the Budget had been sprung upon them. It could be no use for the Government to keep on increasing the duties on Irish and Scotch spirits without at the same time doubling or trebling the duty on spirits coming in from Germany, Denmark, and Sweden. They were simply trying to kill the goose which laid the golden eggs. It was true that they had put a bit on beer, but it still paid four and a half times less taxation in proportion than did spirits. He would earnestly ask the Chancellor of the Exchequer to try and relieve Ireland of a portion of its taxation by putting a large embargo on these foreign spirits; also to see that a different coloured permit was used in order that he might discover where those untraced foreign spirits eventually went to. (Hear, hear.)

Major Jameson's complaint is a just one. The bulk of the enormous quantity of potato spirit imported from Germany, etc., goes to *alleged* distillers in England, Ireland and Scotland where it is flavoured, coloured and passed upon the public as finest Scotch and Irish whisky. The whisky and other firms who practice this fraud are not only shielded from prosecution but this potato derived rubbish secures the price of pure whisky, and the distiller of genuine whisky has to pay as high a tax for the honest article as the whisky fakers pay for the fraudulent one.

The position with respect to beer is similar. Brewers of pure beer using only malt, hops, and yeast are taxed for the genuine article as much as the brewers who use sugar, rice, etc., and save thirty per cent. or more by making the spurious chemical swipes they sell as beer. How this injures native agriculture is manifest and that it is an exceedingly profitable fraud upon the public is certain.

Firms like Jamesons, Guinness, Bass have here a real grievance, and failing the suppression of the use of such substitutes the beer and whisky fakers should be faked more heavily for the inferior rubbish they palm off upon the ignorant public.

### Alum in Baking Powder.

IN our legal columns we record the first conviction under the new Act of a grocer for selling baking powder containing alum.

It appears somewhat surprising that there should be grocers anywhere who do not now know that the sale of alumed baking powder render them liable to prosecution.



## Dietetic and Hygienic Notes.

### Glasgow's Milk Supply and Tuberculosis.

#### PARLIAMENTARY POWERS TO BE ASKED FOR.

Glasgow Corporation Sub-Committee on the Prevention of Tuberculosis has agreed to recommend the Corporation to ask powers from Parliament to enable the Corporation to exclude from sale within the city all milk produced in byres not complying with the regulations therefor; to use tuberculin compulsory, and to slaughter any animal reacting under certain conditions; to otherwise exclude reacting animals from herds, and to mark them; to compel outside Local Authorities, from whose districts milk is sent into the City, to notify affected animals to the Glasgow Corporation, so that the Medical Officer of Health might be informed, and to notify to veterinary surgeons all animals kept and housed in byres contravening the Corporation regulations.

\* \* \* \*

### Diet in Consumption.

Patients who have been successfully treated in German and Swiss sanatoria insist especially upon the quantities of food that they found themselves able to consume under the direction of their physicians. At Nordrach, for instance, the rule is for the patient to eat twice as much as he has previously been accustomed to eat, and patients very soon fail to find it the task they anticipated.

Abundant food is a very serious consideration; for the weight of the patient is an important element in his constitutional resistive vitality. Some years ago the New York Mutual Life Insurance Company showed from mortuary statistics that "of persons with untainted family histories twice as many died among those who were under weight with respect to their height as those above the average weight; that family history influenced the consumption death-rate far less than the personal condition (referring especially to the normal weight), and that it is, therefore, a far less valuable indication of an underlying phthisical predisposition."

All experience coincides in proclaiming the vital importance of a gain in weight for patients suffering from consumption. Practically all the lauded specifics for the disease have been such as acted as tonics and increased the appetite. The influence of suggestion in all cases of tuberculosis seems undoubtedly due to this tonic effect of renewed hope upon the patient. The great specific concealed behind all the others that have been used, and making them all for a time seem of value, is the increased

consumption and assimilation of food that they have induced. It is this that must constitute the ground work of any successful method of treating consumption, and just as soon as the general nutrition fails to improve, any remedy or method of treatment will inevitably fail.

\* \* \* \*

### The Margarine Industry in America.

The total amount of oleomargarine shipped from the factories during 1899 was 79,695,744 pounds. Of this amount 816,848 pounds were shipped into the District of Columbia; 1,791,950 pounds distributed in Maryland and 1,159,400 pounds distributed in Virginia.

Illinois is the banner state, 18,638,921 pounds of oleomargarine being distributed. Pennsylvania comes next with 11,434,341 pounds, Ohio 8,830,969 pounds and New Jersey 5,875,975 pounds. New York shows 22,788 pounds, while West Virginia received 1,206,865 pounds. Other distributions are shown as follows: Indiana, 3,923,228 pounds; Colorado, 1,123,537 pounds; Kansas, 1,658,544 pounds; Kentucky, 1,490,577 pounds; Louisiana, 1,658,544 pounds; Massachusetts, 2,083,889 pounds; Michigan, 2,092,521 pounds; Minnesota, 1,343,865 pounds; Missouri, 3,133,313 pounds; Nebraska, 1,024,985 pounds; Rhode Island, 3,594,984 pounds; Texas, 1,518,264 pounds; West Virginia, 1,206,865 pounds.

Nevada received the smallest amount, 625 pounds while far-off Alaska got 18,080 pounds; Alabama, 226,053 pounds; Arkansas, 380,389 pounds; Arizona, 78,767 pounds; California, 74,923 pounds; Connecticut, 134,255 pounds; Delaware, 40,475 pounds; Florida, 590,225 pounds; Georgia, 495,004 pounds; Idaho, 58,224 pounds; Indian Territory, 152,278 pounds; Iowa, 79,922 pounds; Maine, 102,274 pounds; Mississippi, 104,622 pounds; Montana, 446,022 pounds; New Hampshire, 455,583 pounds; New Mexico, 115,850 pounds; North Carolina, 110,244 pounds; North Dakota, 7,710 pounds; Oklahoma, 117,398 pounds; Oregon, 41,250 pounds; South Carolina, 258,159 pounds; South Dakota, 55,432 pounds; Tennessee, 714,640 pounds; Utah, 8,450 pounds; Vermont, 2,990 pounds; Washington, 63,345 pounds; Wisconsin, 714,742 pounds; Wyoming, 39,547 pounds.

The information as to the distribution of oleomargarine was elicited by Representative Tawney's resolution in Congress. The information will be used in connection with the bills now pending before the House to tax oleomargarine out of existence.—*Paint, Oil and Drug Review*.

## Notes for Grocers.

### The Grocers' Federation and the Warranty Question.

THE Parliamentary Committee of the Grocers' Federation have made the following suggestions to the Associations:—

That all members of association be recommended to insist that all sale notes or invoices of articles purchased as pure bear words of express guarantee.

(1) Where the invoices relate to any one article, the words "guarantee pure" should be used.

(2) When several articles are included in the same invoice, the words "all articles included in this invoice are guaranteed to be pure" should be used.

(3) The words of guarantee may be affixed to the invoice by an india-rubber stamp or some similar means, and it is desirable that the names or initials of the firm be added.

(4) That such steps as are possible be taken to induce the wholesale trade to adopt such guarantees as a regular system of business.

We are glad to see this step taken in the right direction. The Grocers' Associations are the masters of the situation if they resolve to act unitedly,



## The Sterilisation of Brewers' Casks.

MESSRS. MEYER AND CHURCHILL have patented a process for the thorough and economic cleansing and sterilization of brewers' casks. By this process the old and costly method of steaming, rinsing with hot liquor, machining, or unheading, and scrubbing is entirely superseded, and the desired end is more perfectly attained by the agency of sterax. "Sterax" is the trade name of a specially prepared and refined paraffin wax, which, says the *Morning Advertiser*, is perfectly hard, tasteless, and inodorous. It is chemically inert, and, as employed in this process, provides a perfectly neutral medium which, interposed between the wood of the cask and the beer, prevents the introduction and development of whatever may be latent in the staves. As a result the wood is thoroughly sterilised, and the beer retains its original supply of carbonic acid gas, and its keeping properties are greatly increased. The sterax is first melted, and then raised to a temperature of 185 fahrenheit, when it has acquired a high degree of fluidity. The interior of the cask, as sent in from the brewery, is first heated sufficiently to open the pores of the wood, and it is then laid in a horizontal position with the spherical head of the melted sterax spray entering the bung-hole. How this is distributed in the interior of the cask was shown at a demonstration the other day by means of a carboy which was inverted over the spray, which was then injected into the vessel by means of condensed air, the melted sterax entering under a pressure of 15-lb. to the square inch, as indicated by an air-gauge. The fluid diffused itself over the concave surface of the carboy, and soon cooling left a milk-white coating on the surface. On the cask being similarly treated the state of its surface was shown on the withdrawal of a handle attached to a small

circular portion of it, which was found to be covered with a thin veneer of the wax, which had, moreover, entered the open pores of the wood and very nearly filled them. The cask had thus received a complete lining of the wax, which is insoluble in beer and cannot dissolve anything contained in the beer and so alter its condition in any way. A current of cold air completed the process. Sterax is said, indeed, to be an excellent material for a vessel intended to contain beer, and the process has all these conditions in its favour, in addition to which it is not liable to flake off, even though the cask is subjected to very rough usage. The process is very rapid and simple, and its efficiency is vouched for by statements from the breweries in which it has been adopted. It has been in use for two years and a half at the Anglo-Bavarian Brewery, Shepton Mallet, and a beer only supposed to keep good for a fortnight has been found perfectly good after the lapse of two months. In a large private trade brewery in the West of England over 140,000 casks in use there have been treated, and are now in constant use, while 300 "stinkers" have been permanently cured. This important invention promises to relieve the brewing trade from several troublesome and costly difficulties incident to the processes employed; but above all, it is important to them in its destroying the life of micro-organisms. Sterax contains nothing on which they can live, and its surface is such that it does not permit any nutritive matter to find a resting place upon it. The cost of cleansing treated casks has been reduced to a farthing per cask for washing alone, the heavy expense involved in producing hot liquor, steam, etc., being entirely disposed of.

## Suggested Standards of Purity for Foods and Drugs.

By C. G. MOOR, M.A., F.I.C., IN "THE PHARMACEUTICAL JOURNAL."

UNDER the Sale of Foods and Drugs Acts the public analysts throughout the country have to examine such drugs as may be submitted to them by the inspectors appointed under the Acts. It is well known that there is at present no legalised standard by which either foods or drugs can be judged, and, though it would no doubt be a great convenience to public analysts if there were official standards by which their work was regulated, the adoption of such legalised standards would not be without certain disadvantages. The fact remains that every public analyst appointed under the Sale of Foods and Drugs Acts is liable to have submitted to him by the inspector acting for the local authority a sample of almost any food or drug which is sold, and he is by law required to analyse this and state his opinion on the same. A section of the Sale of Foods and Drugs Acts compels him also to perform the same duty for any private purchaser who may choose to buy an article within the district for which that analyst is appointed, and who chooses to submit the said article for analysis and to pay the statutory fee.

The obligation on the analyst to examine and report on the sample is clear. We will next consider what means he possesses of executing the work that he is bound to carry out. There are no fixed standards of purity fixed by law in the case of any foods or drugs whatever except in the case of spirits, where it is defined by Act of Parliament that the strength of brandy, rum and whisky shall not be less than that which is indicated by 25 degrees below proof, and in the case of gin, which may be 35 degrees

below proof. In the case of one or two other articles a standard having almost the force of law has been arrived at by common consent or because it is known to be that which has been adopted by the authorities of Inland Revenue, who are the referees under the Foods and Drugs Acts. Apart from these standards there are none that are legally fixed, with the exception of the Pharmacopœia, but that work has not been specified as a standard under the Sale of Food and Drugs Acts, and therefore is not a legal standard for the purposes of those Acts. The Pharmacopœia was issued long before the Foods and Drugs Acts were thought of, and would require considerable alteration and additions before it could be adopted as a general legal standard. The Pharmacopœia, however, is accepted by magistrates as evidence, and hence the limits laid down in that work have, in many cases, been accepted as standards under the Foods and Drugs Acts. Many of the tests laid down in that work will be found on examination to require further details to bring them within the limit of actual practical utility.

These further details have at present to be filled in by each analyst according to his experience, and may, therefore, be interpreted in many varying ways. Directions are also given in the Pharmacopœia for the preparation of many articles, but no tests are suggested for the finished preparations. Yet these finished preparations may frequently be submitted for analysis. It becomes necessary, therefore, for each analyst to endeavour to supplement the official directions or tests as his experience directs so as to



arrive at some standard by which he can judge of the interpretation of the data yielded by his analysis. To do this with any approach to correctness it will in most cases be necessary that he shall have had experience, not merely of the sample that is before him, but of other samples, some, at least, of which are of known sources, or, in the case of preparations, made by reliable people. Knowing the results yielded by drugs or preparations which conform to the Pharmacopœia directions, he can then decide whether, in his opinion, the sample submitted fulfils the Pharmacopœia requirements if that is the question he has to answer. This latter consideration opens up a much wider question—namely, how far are articles in every-day use to be judged by the stricter standard applicable to those articles intended to be used for dispensing? It appears to me that in this case, as in most others, a broad view must be taken, for if the question is pushed to either of the two extremes the situation becomes impossible.

To state the case briefly, it appears to me that when a purchaser desires an article corresponding to the requirements of the Pharmacopœia he should ask for it as answering the B.P. requirements. It may be objected that ignorant persons will not readily be brought to do this, but that they, nevertheless, deserve protection. A very little inquiry, however, on the part of the vendor, if he is an honest man, should enable him to supply the purchaser with what that purchaser actually wants by eliciting for what purpose the article is required. For example, supposing a person entered a chemist's shop and asked to be supplied with beeswax, and on inquiry it is found that the beeswax is intended for polishing or for the waxing of thread, it is clear that the purchaser does not wish for a medicinal beeswax, nor, indeed, does he really wish for beeswax at all, but for a mixture of beeswax and paraffin, which is sold at a cheaper rate. The proper course to pursue under such circumstances is for the vendor to say, I think that what you want is not the pure beeswax used in medicine, but a mixture of beeswax and turpentine, which is cheaper, and commonly used for the purpose you mention. Then if the purchaser desires pure beeswax he has the opportunity of saying so and of paying a proper price for that article. If, on the other hand, he requires the cheaper mixture, he has been plainly told what he is getting, and cannot possibly be considered to be prejudiced by his purchase.

In some cases the supplying of the pure article indiscriminately might be to the prejudice of the purchaser, as in such a case as this: If a person who is accustomed to take "Juniper oil," which would probably be *Ol. Juniper Liq.* (which appears to be a mixture of a small quantity of "Juniper oil" with turpentine) were to be supplied with pure "Juniper oil, B.B." and were to take the same quantity as he was accustomed, the consequences might be unpleasant. As in the former imaginary case, it appears to me that the vendor should explain to the purchaser that the article he probably was inquiring for was a mixture of pure "Juniper oil" and turpentine, and that he could have it if that was what he wished for, and that if he supplied it he should label it accordingly. If, on the other hand, he wished for pure "Juniper oil," he could have it, but that the price was naturally higher than that of the mixture. It may be that many retailers will not agree with my views in the above imaginary cases. On the other hand, I feel strongly that any attempt to compel those who sell articles of food or medicine to deal only in the pure and unmixed articles, to the exclusion of all others, can only end in failure. In many cases it is absolutely necessary for the shopkeeper to have more than one quality of an article, because the public demands more than one quality.

The only thing that should be insisted on is that its true nature, substance, and quality should be clearly stated. The Sale of Foods and Drugs Acts permits the sale of mixtures providing the fact is clearly stated on the label. Where, however, an article is marked "pure," the presence

of any admixture constitutes adulteration. In the case of drugs it is known that Pharmacopœia is a standard for those drugs which are used in dispensing, and though it does not apply by law to them when they are not used for dispensing, in the majority of cases the purchaser would expect to get drugs of a quality and purity not less than he would get them if they were dispensed in mixtures. In view of this, and of the general acceptance of the Pharmacopœia as a standard by magistrates all over the country, all pharmacists would do well to see that the drugs they deal in are in accordance with the requirements of the Pharmacopœia. In spite of the deficiencies of the Pharmacopœia, it will be admitted that, generally speaking, the tests prescribed by it are sufficient to exclude most of the substitutes or deficiencies to which drugs and their preparations are subject. Pharmacists will find no difficulty in obtaining from wholesale houses definite guarantees that the articles they order are in accordance with the requirements of the Pharmacopœia, and they should always ask for a definite guarantee that this is so. Where there is a reluctance on the part of any wholesale house to give such a guarantee, the cause of such reluctance is probably the fact that the price paid does not admit of an article up to the standard of the Pharmacopœia being supplied.

The adulteration of foods—namely, the adding of water to milk, or the selling of margarine as butter, or of the mixture of coffee and chicory as coffee, does not appear to me to find an exact parallel in the case of drugs. The adulteration of drugs by retailers is, in my opinion, exceedingly unlikely; in fact, the word "adulteration" does not truly convey the meaning intended. Take the case of articles that are liable to natural deterioration; for example, sweet spirit of nitre and lime water, though I do not mean to say that such natural deterioration may not largely be due to carelessness. If a pharmacist is prosecuted under the Foods and Drugs Acts for a deficiency in either of these articles, it is by the public regarded as an offence or form of cheating similar to that indulged in by the milkman who waters his milk. This is an exceedingly unfair view of the case, because the milkman commits a deliberate offence and intends to cheat his customer, whereas I cannot conceive a pharmacist deliberately selling lime water or sweet spirit of nitre which he knew to be deficient in their active principles. The retailer, however, may obtain drugs from the wholesale houses which the analyst, on examination, would pronounce to be adulterated. In a few cases, such as camphorated oil, the article is deliberately compounded not in accordance with the Pharmacopœia, and is probably not invoiced as such. In this case the retailer may have been negligent, so that he does not know what he is selling; or he may be intentionally selling this article because he makes more profit on it than on the Pharmacopœia article. If, however, his customers were sufficiently educated to ask for camphorated oil, B.P., and were willing to pay the price for it, he would certainly stock the higher price article, and derive a profit from so doing. If he sells a mixture as "camphorated oil," that mixture should certainly be prepared in accordance with the Pharmacopœia directions. If he thinks proper to keep another and a cheaper mixture, it appears to me that he is perfectly at liberty to do so, providing he does not allow his customers to be misled into thinking that it is the camphorated oil of the Pharmacopœia. The correct labelling of this and of many other articles would do away with the majority of those cases in which retailers feel themselves oppressed by what they not unnaturally think vexatious prosecutions on the part of public officials. It is in many respects the public that require educating. They do not at present understand that if they insist on paying a low price they are certain not to get the best quality drugs. But the mere fact of labelling articles correctly, which is what I desire to urge is sufficient to show them that there are two qualities, and then, I think, it will be found that a great many people are sufficiently wise to wish for the better quality, and will



be ready to pay the price for it. At present, the public often demands certain articles at such low prices that the retailer is forced to ask the wholesale dealers to supply such-and-such things at prices at which the best qualities cannot be obtained. This leads to inferior qualities being supplied; perhaps, in the case of some drugs, even substitutions of a drug which may not have the same medicinal qualities, and the desired effect not being produced the patient has recourse to secret remedies and patent medicines.

The demand for cheap stuff is very largely at the bottom of the whole difficulty. There are, however, special difficulties which affect each one of the three classes of people most concerned in the administration of the Acts. First, the analysts have not got fixed standards nor definite information to enable them to carry out their duties properly. Retailers suffer from the desire of the public to obtain drugs at the lowest possible price, and have to face the fact of either losing customers or selling the genuine articles at an unreasonably small profit. Wholesale houses, on the other hand, being asked by many retailers to supply them at the lowest possible rates, find it difficult to obtain proper prices for drugs of the best quality, so that while they are obliged to keep stocks of the best qualities, a relatively small proportion of the better qualities are sold, so much so that in some cases they become more curiosities than articles of commerce. Wholesale houses also have their own difficulties; they are often unable to control the method of collection of drugs so that they may contain amounts of mineral or vegetable admixtures which an analyst would consider adulteration, but which is in some cases unavoidable in practice.

With regard to educating the public as to the necessity of paying proper prices for pure drugs, I am, with the consent of my local authority, publishing a circular, which will be freely distributed in the district, and, I hope, subsequently reprinted in the *Pharmaceutical Journal*. Regarding the difficulties of analysts which I mentioned above, I have been engaged for some time past, in the company of two fellow-workers, Mr. Cecil H. Cribb and Mr. Martin Priest, in collecting information as to the average composition of all the foods and drugs likely to be submitted to the public analyst—that is to say, in compiling sets of figures of reliable specimens of all the ordinary foods and drugs. In doing this I have had occasion to ask the assistance of many persons well known in the pharmaceutical world, and it has in every case been most kindly given. The object of these suggested standards, first instalment of which will be published next month in the *British Food Journal*, is not that of increasing the number of prosecutions under the Sale of Foods and Drugs Acts; my object is to endeavour to obtain correct ideas regarding the composition of pharmaceutical preparations, and within what limits they may reasonably vary, providing the official direction for their preparation have been carried out. To this end I would invite the assistance of all who are engaged in the analysis of drugs, and shall be glad to furnish any person interested with the proof dealing with any article in which he may be interested. I need hardly say that any figures or information that may be given me would be duly acknowledged, and I trust that it will be admitted that the work on which I am engaged will be for their general benefit.

## Organising Ireland's Agricultural Industries.

THE Irish Agricultural Society was founded by Mr. Horace Plunkett in 1894. . . . The greatest difficulty—and it was thought to be insuperable—which confronted these pioneers of self help was the tendency, common to all poor agricultural communities, and intensified in Ireland by historical causes, to look to the Government for remedies which must in reality be found and applied by the people themselves." Thus the preface, and in conclusion Mr. Plunkett reminds us that already 40,000 farmers and labourers have practically accepted the self-help doctrine the society has preached, and now only a comparatively small sum is needed to make Ireland, as far as agriculture is concerned, a second Denmark. The body of the report shows us how multifarious are the activities of the society. It embraces dairy societies, auxiliaries, agricultural societies, agricultural banks, poultry society, home industries, and so forth. To take the dairy societies, which are now making a name for themselves and for Irish butter in the market. There are now 191 societies, with a membership of 20,000, and doing a trade of £400,000. A hundred of these societies furnished complete returns of their business. The members have subscribed £53,300 of capital, a sum augmented by £113,000 on loan. The value of the buildings is returned as £97,000, but the real figure is much larger. The co-operative creamery, of course, buys the farmers' milk, and in this way £354,000 was spent. The butter dealer is the £400,000 already mentioned, and the creameries made neat profit of £6,100—not a gigantic sum, but large when we recollect that the creameries have to rescue the reputation

of Irish butter from the slough into which it had fallen as a result of bad management and the absence of method. It is worth noting that an improvement in the machinery for separating cream yielded 1.5 oz. more butter per gallon, which on 23,000,000 gallons worked out to £11,000. Co-operators look forward to getting finally 1oz. more per gallon, and they believe, as a result of American experiments in weeding and feeding, that the productiveness of the milk of a herd of dairy cows may be increased 25 per cent. The great thing is to find competent dairy managers. The report sums up the "status quo" by remarking that every competent man is employed in Ireland, and a score of creameries are scouring the high-ways and hedges in case one should chance to be there.

Ireland is waking up to the necessity for scrupulous cleanliness, for posting accounts properly, for packing and sorting the eggs with care. The story of the egg reformation is not without interest. A bolt fell from the blue on Irish egg-shippers when the Liverpool and Glasgow egg merchants informed them by circular that on and after a certain date they would cease to buy Irish eggs unless they were fresh, clean, and properly packed in cases of the Continental pattern. The hint was taken. The henwives had "held up" eggs and disposed of them at any time, any age, anyhow, and any size. But now co-operative poultry societies buy fresh eggs only, sort, weigh, stamp, pack, sell them in first-class condition, so that henceforward the expression "Irish egg" will not mean a common egg, still less the article for the hustings. They pay money down



to the ladies who keep hens, and as they pay by weight, and not by dozen, those who have eggs to sell are more than anxious that they should be large—a taste which they now share with the consumer. A Danish expert has been brought over to Ireland to teach the societies how to select, grade, and pack eggs for exportation, so that “Irish egg,” as already stated, is on the up grade.

An interesting agricultural development is the co-operative sale of pigs. These are bought by curers who pay by quality and weight, who point out to the society from which the pigs come the shortcomings of any member's lot, so that pig-feeders over and above their market obtain expert opinion on quality, which enables them to correct errors in feeding. Members in remote districts have thus been enabled to secure far better prices for their pigs, and the risk of home curing is eliminated.

The agricultural banks now number forty-eight, and the audited accounts show an extremely satisfactory state of affairs. Punctuality in repayment has been the rule, many members paying up before the loans had expired. No bad debts have been incurred. Thus, one bank in Mayo granted 536 loans, and only twelve members were a week late in repayment. Thus, the gombeen man had better prepare his farewell to Erin. Several excellent examples of the usefulness of timely loans are given. A woman borrowed £2 and bought young pigs. In six months she paid back the loan, and had a balance after selling the pigs and paying the rent.

Mr. Plunkett has much to say that is interesting about experimental plots, early potatoes in Aran, home industries, and trade federation. The federation, with a sale amounting to £706,000 in seven years, had only £168 in bad debts. But interesting as this is, our attention was rivetted by some experiments in co-operative grazing. A society in County Meath rented a piece of land, and let it out to the members at ordinary grazing rates. The difference between the rent paid and the amount received from the graziers was then divided amongst the co-operators in proportion to the rent paid by each. Satisfactory as this is, Mr. Plunkett is doubtless right when he says that a real solution of the problem must be the purchase of grazing land.

Hitherto it has been thought that Irishmen and co-operation were incompatible. All who know Irish history in the eighteenth century are acquainted with the real quality of much Irish patriotism, summed up by one good man who thanked Heaven he had a country to sell. Those who have watched the “co-operation” between Irish members in the House of Commons have more than once been astonished with great astonishment. And they will be so again if they read Mr. Plunkett's report. For here we find Irishmen co-operating, anxious to do rather than say, willing to realise that there may be faults in themselves as well as in the Government. It looks as if Ireland had started on the path of regeneration, and as if it may shortly set British agriculturists an example.

G. S. B. in *The Sunday Times*.

## Pasteurisation of Milk in Bulk.

A VERY interesting article on the subject appeared in a recent issue of the *Times*. The increasing attention that has been bestowed upon the subject of tuberculosis, or consumption, in recent years, and the circumstance that this and other diseases are capable of being communicated to human beings, and particularly to infants, through the medium of cows' milk, have served to stimulate sharply the public interest in the question of the sources and the purity of our milk supply. If all milch kine were known to be free from disease little suspicion would attach to the character of their milk. Unfortunately, however, tuberculosis is widely spread among bovine stock, as the application of the tuberculosis test—though it is admitted that this test is not infallible—readily demonstrates. To enforce by law the compulsory slaughter of tuberculosis cows, and to pay compensation for those from the public purse, would involve so enormous an outlay that the proposal may be regarded as outside the range of practical politics. Hence the question at issue has been approached in another way, and attempts have been made to render milk innocuous even though it may at the outset have been made to render milk innocuous even though it may at the outset have contained the germs of tuberculosis, to say nothing of other pathogenic organisms which may be present in the lacteal secretion of the cow. By the simple expedient of boiling the milk the latter is sterilised to the extent that the micro-organisms capable of inducing specific forms of disease in the human subject are destroyed. Milk that has been boiled may be drunk with impunity, but a difficulty here arises from the circumstance that, by boiling, the character of the milk is entirely altered, while its flavour is so modified as to be nauseating to many palates. It has, however, been found that it is not necessary to raise milk to the boiling temperature in order to destroy the pathogenic germs—their activity, as Pasteur showed, may be arrested at temperatures far short of boiling point. The effect of boiling and of super-heating has received practical application in the preparation of sterilised milk in bottles,

which are then ready for distribution among consumers. The objection in this case is not only the decided alteration in flavour, but the very great labour involved in filling the bottles and in keeping them and their stoppers scrupulously clean, to say nothing of the disadvantages arising from its not being possible to place more than very limited quantities of bottled milk within the steriliser at one and the same time. The question arises, therefore, is it possible—more, indeed, is it practicable—to pasteurise milk in bulk, that is, to deal with hundreds of gallons at a time, instead of with a few dozen pint or quart bottles, and that at temperatures which will not adversely affect the flavour of the milk? Within certain limits the subjection of fresh milk to a lower temperature for a longer time has the same fatal effect upon the disease producing organisms as its subjection to a higher temperature for a shorter period. The temperature to be sought is obviously the highest which will not impart to milk the flavour derived from cooking. This is found in the neighbourhood of 150 deg. Fahr., above which level the cooked flavour that is so objectionable becomes perceptible. An exposure of fresh milk to a temperature of 150 deg. for the space of 20 minutes is found to produce the desired effect. But two obstacles here present themselves. When milk is rapidly heated the nitrogenous matter deposits a crust upon the hot surface with which the milk is in contact, and this has to be prevented. Again, in dealing with such large quantities of milk as are required for urban supply, a correspondingly large plant would be needed unless the same apparatus could be rapidly employed again and again as often as might be necessary. These difficulties have been successfully met with the result that a large urban population is now in the enjoyment of a regular supply of milk of faultless character. The credit of this is due to the Bath and Somerset Dairy Company (Limited), and the manner in which they have solved the problem at issue is now, in the following description, for the first time made public. The milk to be treated is obtained from a number of farms within a radius of seven



or eight miles of Bath, whence it is conveyed by cart to the company's premises in that city. On arrival the milk is poured into a large receiver, into which it passes through a fine meshed wire strainer intended to arrest mechanical impurities. From the receiver the milk is raised by a small rotary pump through tubes to a tank overhead. It falls thence by gravitation down a tube which causes the milk to find its way through a closely-clamped cotton-wool filter, where further purification is effected. It immediately passes onwards to a vertical turbine pasteuriser, which is steam-jacketed, and inside which the temperature of the milk is suddenly raised to 150 degrees. To prevent the milk from depositing a crust upon the hot inner surface of this vessel the whole of the liquid is kept in violent agitation by means of vertical rods which are set in rapid rotation by the turbine. The maintenance of the milk at a temperature of 150 deg. for the period of 20 minutes is effected by means of two covered receiving tanks, each holding 50 gallons and each occupying ten minutes in filling, the second not commencing to fill from the first till that is already full. The passage of the milk through these receivers thus occupies the desired 20 minutes, the necessary temperature being preserved throughout. Each receiving tank is separated internally into six concentric zones, three of which are occupied by milk and the alternating three by steam. The attendant has at his command a steam valve and a cold water valve, and, by keeping his eye on the thermometers inserted in the pasteuriser and the receivers, he has no difficulty in maintaining the temperature at the required level. The apparatus having once been started at 150 deg., there is, indeed, very little tendency for the temperature to vary. Immediately the second receiving tank is full the milk begins to flow automatically there from over a mettalic cooler, and will continue to do so as long as the milk, however many hundreds of gallons there may be, is supplied to the original receiving vessel, to be pumped up. The cooler, which is cylindrical, is about 4ft. in diameter and 6ft. high. The cooling milk affords a beautiful sight as it flows in a thin continuous film down the transversely sinuous sides of the cooler, the temperature of the inner face of which is kept low by a constant flow of cold water. During its passage over the outside of the cooler the temperature of the milk is suddenly reduced from 150 deg. to about 50 deg., the

temperature of the water. The milk accumulates in a circular channel at the base of the cooler, and a thermometer dipping in this channel shows if the temperature has been reduced to the desired level. From the channel the milk is drawn off by a two-way tap into scores of churns, one after the other, these churns or milk-cans being scrupulously cleaned every time before use. The milk in these large cans—as clean, pure, and faultless as modern science and engineering skill can make it—is now ready for retail delivery, and it is supplied daily to 3000 houses in Bath. If a glass of milk be taken from the first receiver into which it is poured as it arrives from the farms, and a glass also from the milk as it flows from the cooler, there will be found no perceptible difference in the flavour of the two, and the most delicate palate will fail to detect any trace of cooked or scalded flavour in the pasteurised milk when the process has been properly carried through. But from a hygiene point of view there is a vast difference, for the high-temperature tanks play the part of a lethal chamber, so far as diseases-producing germs are concerned—the germs not only of tuberculosis, but of typhoid, diphtheria, measles, and scarlet fever, all of which have at one time or another been proved capable of transmitting infection to the human subject through the medium of cows' milk. At present the Bath plant is used twice a day, and many thousands of gallons of pasteurized milk issue from it in the course of a week. The plant is thoroughly cleansed after each operation. Cold water is first run through every part of the apparatus in the same way as the milk. Water is next heated up to any desired temperature in the pasteuriser and run through the plant, and this is followed by a similar current of lime-water which flows from a tank overhead and effectively completes the cleaning. Finally, cold water is once more run through, and the plant is again ready for a supply of raw milk from the country. The cleaning is practically automatic, as it involves little or no hand labour, and every part of the plant is really accessible. The essential features of the process to which the milk is subjected are seen to be thorough filtration, effective pasteurisation, and rapid cooling. The scheme was devised by Mr. H. Bailis Tucker, the managing director of the company, and the plant was specially designed and laid down by Messrs. R. A. Lister and Co., of Dursley, Gloucestershire.

## Official Reports and Notes.

### The Sanitas Company, Ltd.

THE report of the directors for the year 1899 states that the balance to the credit of profit and loss account, after making provision for bad and doubtful debts, all repairs to plant and machinery, and other charges, adding the amount brought forward from 1898 of £1,425, and deducting income-tax, amounts to £15,173. From this sum £3,700 has been paid as interim dividend for the half-year ended June 30th, leaving, after payment of directors' fees, a balance of £10,696. The directors propose to place to reserve the sum of £2,000, and recommend the payment of a further dividend of  $4\frac{1}{2}$  per cent. and a bonus of  $\frac{1}{2}$  per cent., making, with the interim dividend already paid, a total distribution of  $7\frac{1}{2}$  per cent. for the year, leaving a balance of £1,543 to carry forward. The dividend and bonus, if approved by the meeting, will be payable on and after March 1st next, to all shareholders registered in the books of the company on February 15th, 1900. With the view of providing more ample accommodation for the growing requirements of the company's business, and making adequate provision against fire and other risks, a block of freehold land and premises, at Limehouse, have been acquired, and the buildings are

being fitted with the necessary plant and machinery; so that the company are now the owners of two distinct factories, thus affording much better security for uninterrupted and larger production. The cost of, and the expenditure upon these new works to December 31st amounted to £10,656, and payment therefore has been effected out of the company's funds which were in hand at the end of 1891. During the past year another patented variety of drain testers has been added to the company's list of articles, and application has also been made for a patent dealing with a new fumigating and disinfecting appliances, designated by the trade mark "Formic Sulphugator."

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### Adulteration in Middlesex County.

Mr. Edward J. Bevan, the Middlesex County Analyst, in his quarterly report states that he analysed 718 samples, and only 32 were adulterated. There were 19 samples of coffee, 143 of butter, 9 of cheese, 5 of jam, 29 of lard, 5 of margarine, 6 of cornflour, 2 of honey, 3 of mustard, 5 of pepper, 7 of sweets, and 1 each of olive oil, green peas, pea-flour, salad oil, and sugar, all pure.



### Adulteration in Kent County.

THE County Analyst reports that he has had 531 samples submitted to him for analysis during the past quarter, of which 452 consisted of samples of food and 79 of drugs. Of the former 33 were found on analysis to be adulterated, the articles comprising 1 butter, 1 coffee, 2 brandy, 10 whisky, 4 rum, 5 gin, 8 milk, 1 cheese, and 1 ginger; and 9 samples of drugs found to be adulterated comprised 4 olive oil, 1 tincture of iodine, 2 liniment of camphor, and 2 spirits of nitrous ether. In most instances the analyst reports that the degree of adulteration was slight; among the exceptions to this rule were a sample of butter from Cranbrook Division, which contained 95 per cent. of margarine; one of coffee from Faversham Division, which contained 60 per cent. of chicory; and one of cheese from Malling Division, which was made from separated milk with which 30 per cent. of margarine had been mixed. Out of nine samples of olive oil, four proved to be entirely composed of cotton seed oil.

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### The Annual Dinner of the Sanitary Inspectors' Association.

THE seventeenth Annual Dinner of the Sanitary Inspectors' Association was held at the Holborn Restaurant on March 3rd, about one hundred and twenty members and guests being present. The President, Sir Hugh Gilzean Reid, LL.D., eloquently demonstrated the claims of the Sanitary Inspectors to fixity of tenure, and Mr. W. H. Grigg, the Chairman of Council, gave some striking instances of the abuses prevalent because such fixity of tenure is denied Inspectors. The speeches were of a high order, and the music under the direction of Mr. Strutt, added greatly to the pleasure of members and guests. It will surprise most people to learn that Sir Charles W. Dilke up to the present has not seen his way to support the Sanitary Inspectors' requests for fixity of tenure, giving liberty to deal effectually with adulteration of food, insanitary property, owners, etc. In principle, we agree with Sir Charles W. Dilke on having officials of local authorities directly responsible to the ratepayers, but such responsibility would exist in quite as great a degree as the strictest stickler for local control can insist upon, if the Inspectors could only be discharged by consent of the Local Government Board. The efficiency of sanitary work, we know, is in too many cases impaired because of the present system which gives the slum property owner, etc., power to terrorise the zealous inspector.

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### Inspection of Weights and Measures in Liverpool.

MR. THOMAS JONES, chief inspector of weights and measures under the Corporation, has issued his report for last year to the members of the Fire Police Sub-Committee. In regard to the out-door department it was stated that the number of trades within the city liable to be visited by inspectors was 15,823, and the number visited 19,965, including the dock estate, as against 20,158 in 1898, a decrease of 193 visits. The convictions for offences under the Weights and Measures and Bread Acts numbered 80, against 117 in 1898, the penalties with costs, amounting to £91 0s. 6d., as compared with £118 11s. in 1898. The income from the outdoor department for stamping, etc., weighing instruments, together with the penalties and costs was £172 7s. 5d., against an expenditure of £912 16s. 2d., making a balance against the department of £740 8s. 9d. With regard to the indoor department the weighing instruments verified and stamped during the year, including the dock estate, numbered 5,166, against 6,237 in 1898, a decrease of 1,071; the number of weights verified and stamped was 77,130, against 86,729 in 1898, a decrease of 9,599, and the number of measures stamped 206,601, an increase of 3,798, as compared with the previous year. The income for stamping, adjusting, marking, repairs, etc., was £1,760 2s. 8d., against an expenditure of £1,457 18s. 3d., making a balance in favour of the

indoor department of £302 4s. 5d. The total income was £1,932 10s. 1d., and the expenditure £2,370 14s. 5d., making a balance of £438 4s. 4d., against the whole department. The chief inspector points out that they are able to carry out the verification and stamping of metric weights and measures that may be used in the city.

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### The Food and Drugs Acts in Hackney.

MR. LEO TAYLOR, F.I.C., public analyst for Hackney, reports:—

During the quarter ended December 1st, 1899, 160 samples have been submitted for analysis under the Food and Drugs Acts, and the whole of these have been purchased by the Vestry's Inspectors.

The following is a summary of the samples submitted: Butter 67, milk 63, drugs 12, coffee 10, spirits 7, and cocoa 1.

The offences under the Acts were in the case of 18 milks, 15 butters, 3 coffees, 2 sweet spirits of nitre, and 1 gin.

It will be observed that the principal feature of the quarter is the successful manner in which the adulteration of butter is being dealt with and the assistance afforded to the Vestry by Magistrates in the imposition of fines. In this relation, fines to the extent of £18 10 including one of £20, three of £10, and several of £5 have been imposed.

It is only by measures such as those that the adulteration of butter, which has been carried on with practical impunity in the past can be stamped out. The new Act which came into operation on January 1st will greatly assist in remedying the evil.

The fines and costs imposed on the cases taken into court are given in the table—they amount to, fines £91 12s. 6d., costs £15, making a total of £106 12s. 6d.

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### The Nottingham Analyst on the Adulteration Act.

A MEETING of the Nottingham section of the Society of Chemical Industry was held, on February 28th, at the University College. Professor F. Stanley Kipping, F.R.S., presided, and Mr. S. B. Trotman, city analyst, gave a paper dealing with his analytical examinations of food stuffs, during the year. Of the 400 samples which he had analysed no less than 150 had to be condemned under the *Food and Drugs Act*, showing that there was still sufficient necessity to keep a public analyst to look after these matters. With regard to spirits and milk, undoubtedly the reason for the great adulteration which occurred, and which could not be checked by the Food and Drugs Act, was that the fines inflicted upon offenders was inadequate. There was a certain Act which charged the inspection of milk shops, but it was not perhaps, put in force as stringently as it might be, and milk was sold from houses which were absolutely insanitary with practical impunity. All these things pointed to the absolute necessity of sterilising milk before it was used, and, not only milk, but cream. Of the 204 samples of milk examined no less than 68 were adulterated. Whenever a sample of milk was adulterated of course the adulteration was extremely high. The year before last he examined twenty different samples of milk for tubercle, and he discovered tubercle in five or six cases.

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### Bedfordshire and Weights and Measures Charges.

MR. BARNES moved, according to notice of motion, the following: That the stamping and verification of all weights and measures and weighing instruments be free, and that that the present fees for adjusting be reduced 50 per cent.; and that the scales of charges be altered accordingly." This was adopted.



### Adulteration in St. Luke's.

THE public analyst of St. Luke's, Middlesex, Professor A. W. Stokes, in his quarterly report states that of 56 samples submitted to him for analysis only 4 were wrong, viz., 3 of butter and 1 of milk; and the "butters" were in two cases only unlabelled margarine, and not sold at butter price. The cheese, coffee, pepper, ginger, arrow-root, lard, olive oil, green peas, sugar, and mustard samples were all pure.

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### Cheshire Analyst's Report.

THE report of Mr. J. Carter Bell, the public analyst for the County of Chester, upon the articles analysed by him under the Sale of Food and Drugs Act during the quarter ending December 31st, 1899, has been presented to the Cheshire County Council. The report shows that in all 292 samples were analysed, consisting of 103 milks, 70 butters, 29 spirits, 10 coffees, 2 cheese, 8 peppers, 1 camphor liniment, 2 golden syrups, 2 gingers, 2 oatmeals, 1 bread, 1 wine, 18 effluents, and 42 waters. Of these, 12 were adulterated—namely, 2 butters, 4 spirits, 5 milks and 1 oatmeal.

With regard to one of the sundry samples, a sample of so-called ferruginous wine, Mr. Bell says:—"The mean-

ing of the word 'ferruginous,' according to the dictionary, is 'to be impregnated with iron.' Practically speaking, this sample did not contain iron, for the quantity found was a mere trace, or 1 part in 150,000. This is a very gross fraud, which is practised upon the public, for I have paid particular attention to the subject, with the result that I have never found a pure grape juice containing such an appreciable amount of iron as would justify the term 'ferruginous.'

"I have analysed a large number of pure grape juices to ascertain if iron is really present in considerable quantities, and in not one instance did I find the minimum medicinal dose of iron in the bottle of wine."

The results of the analysis of various grape juices obtained showed that so far from the title ferruginous being specially applicable to the wine in question, it has less claim to such designation than have the ordinary wines of commerce. In Mr. Bell's opinion the designation 'ferruginous,' as applied to this sample, is most seriously misleading, and is a distinct violation of the Food and Drugs Act. The offence is the more serious, because it is a false appeal to suffering humanity. For the Vinum Ferri, or iron wine of the British Pharmacopoeia must contain one grain of iron to the fluid ounce, or 160 grains to the gallon."

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—At Lambeth Police Court, last week, W. Barrett, a farmer of Manor Farm, South Perrott, Crewkerne, Somerset, appeared to answer four summonses taken out by the Lambeth Vestry, under the provisions of the Adulteration of Food and Drugs Act.—Mr. H. J. Smith, vestry clerk, prosecuted.—The defendant has a contract with a dairy company for the supply of guaranteed pure milk. In consequence of a complaint received from the dairy company, Mr. W. J. Perrin, the vestry's inspector, on the 27th January, took samples of the milk consigned by the defendant to the company. These samples were certified by the public analyst to contain 24 per cent. of extraneous water.—The defendant, in answer to the summonses, pleaded that he was very ill with influenza at the time the samples were taken.—Mr. Hopkins ordered the defendant to pay a fine of £10 upon each of the four summonses, together with £10 10s. costs.

At Cheadle, on February 23rd, Rupert Henry James, Cross Street, Cheadle, was charged with selling adulterated milk on the 9th of January. Mr. E. W. H. Knight, inspector, prosecuted. Charles Giffard, assistant to the prosecutor, testified to purchasing a pennyworth of milk from the defendant's daughter at Cheadle on the above date for the purpose of analysis. Mr. Knight produced the certificate of the county analyst. Mr. E. W. T. Jones, which showed that the milk contained 17 per cent. of added water. The defendant, who pleaded the usual excuse of rinsing the can, was mulcted in £1 and costs.

At Blackburn, the adjourned case was concluded in which Thomas Jackson, of Brookfoot Farm, Padiham, was summoned for consigning milk to the Callow Park Dairy Company which was not of the proper quality. The remand was granted in order to see whether a statement was true that the defendant had received certain letters of complaint about the milk.—Mr. Carter, who prosecuted, said it was not a fact that the letters had been received.—Mr. Read appeared for the defendant, and said the statement about the letters was highly damaging, and he hoped the Bench would give him the benefit.—The Chairman said the Bench were glad the case had been adjourned for the letters had been sent it would have put a different complexion on the matter. They did not think the defendant had been guilty of fraud, so they would inflict the lowest penalty they could—20s. and costs.

In the Belfast Summons Court, on February 23rd, before Messrs. F. G. Holder, R.M., and James Johnston, J.P., summonses were heard at the suit of the Board of Guardians against Robert Barron, Ballypalady, County Antrim, and Thomas

Hugh Barron, Roughfort, dairy farmers, for having sold to the prejudice of the purchasers an article of food, milk, which was not of the nature, substance, and quality demanded, having been adulterated with water. Both summonses also set out that the defendants were previously convicted. In the case of Robert Barron the adulteration alleged was 16·44 per cent., and the latter case 26·86. Mr. W. M. McGrath, B.L. (instructed by Mr. William Harper), appeared for the guardians, and Mr. J. M. Whitaker, B.L. (instructed by Mr. Turnbull), for the defendant. J. C. Neeson, Clerk of the Union, examined, produced the advertisement for the milk, along with the defendant's tender. Adam Weir, master, stated that on the 18th January last he took samples of the defendant's milk when it was delivered at the workhouse. He told the driver he was taking it for the purpose of analysis. He divided it into three parts, gave one to the driver, kept one himself, and sent the last sample to Sir Charles Cameron. This was forwarded by rail. He produced the certificate of the analyst, showing that the milk was adulterated to the extent of 16·44 of added water. Mr. McGrath produced a certificate showing the defendant had been previously convicted. Cross-examined by Mr. Whitaker: The samples were sent by rail, and he produced the receipt given by the railway company. It was sent along with ten other samples in a box, carefully labelled and made up. The box was not sealed, but each sample was. It was possible, of course, to open the box. John Cahill, employee of a Dublin firm of carriers, proved delivering the box to Sir Charles Cameron. He produced the receipt given to him by the clerk at the laboratory in Dublin. Dr. E. C. Bigger, visiting medical officer at the workhouse, said the practice of supplying adulterated milk was a very dangerous one. The lives of many patients under his care depended upon the amount of milk given to them. The lives of a very large number of children also depended upon the milk. Mr. Whitaker: You would not say that any fatalities were due to this adulteration? Witness: It must contribute towards it. Mr. Hodder: If he went so far as that these parties would be liable for manslaughter or murder. Mr. Whitaker: That would be a nice point for your Worship's decision. Counsel then proceeded to say that he intended adopting the same course of action as on the last day—state the circumstances and allow their worships to judge. His client was a large cattle dealer, and was constantly away. In connection with his cattle dealing he had a large dairy farm, which was managed by his servants, in whom he had every confidence. Mr. Hodder: Even after the last conviction? Mr. Whitaker (continuing) said that his client gave strict injunctions to his servants that the milk should be carefully sent, and he warned and cautioned them as to their conduct. On the day in question, so far as he knew, the milk left his place in its proper condition. An extraordinary fact had happened. The driver of the milk had disappeared, and, more extraordinary still, he had not returned to claim his wages. Their Worships would see it was entirely in the power of the servants to deal dishonestly with their employers. Mr. Hodder: Has anyone a right to take a



contract unless he takes proper precautions? Mr. Whitaker: What precautions can we take? Mr. Hodder: You can lock your cans, as was suggested on the last day by Mr. M'Lorinan. Mr. Whitaker said that employers generally relied on the honesty of their servants. It was only when they suffered that they took precautions. He left the case in their Worships' hands. Mr. Hodder, in announcing the decision of the Court, observed that it was an admitted fact that the milk was adulterated to the extent of 16·44 per cent. There was no defence on the merits, the analyst's certificate having been accepted as true. On a previous occasion he expressed his opinion that an offence of this kind was one of the gravest that could possibly be committed, having regard to the fact that a good deal of this milk went to the nourishment of the ill and sick—poor people, who were not in a position to protect themselves—and to the sustenance of children who were placed there in a helpless position. Anyone who undertook to supply the guardians with new milk, before he did so should certainly take every precaution that could possibly be imagined to comply with the terms of his contract. On the contrary, the contractors, up to the present, so far as the experience of the Court was, appeared to have traded in the most reckless manner. Whether they were personally responsible, or whether the default had arisen from their servants, was a matter the Court was not in a position to say. But that an offence had been committed was beyond any doubt. Mr. Nagle last week fined two persons £40. The percentage in this case was not so great. Mr. M'Grath: One of them was this gentleman. Mr. Whitaker: I object very strongly to that statement. It has not been proved. Mr. M'Grath said that he could not prove it. Mr. Hodder added that they would deal with the case as it appeared before them on the summons, and would impose a penalty of £30 and 20s. costs, one-third of the penalty to go to the guardians.

#### AN ABSENT DEFENDANT.—WARRANT ISSUED.

In the case against Thomas Hugh Barron, of Roughfort, Mr. S. Ross, who represented Mrs. Barron, raised a question of service. It appeared that the summons had been served on the wife, who stated that her husband had gone to New Zealand. Mr. Hodder: Under these circumstances I don't see how you can proceed. Mr. Harper asked for a warrant, as it was possible the defendant might be coming back, and their Worships granted the application.

At Yarmouth, on February 26th, Thomas N. Juby, 10, Row, was summoned for selling adulterated milk. The Town Clerk prosecuted, and Mr. C. Taylor defended. Mrs. Miller said, as in the previous case, she went to defendant's, acting under the instructions of Inspector Hassall, and purchased 1½ pints of new milk. The Inspector subsequently went into the shop, and explained the reason for which it was purchased. An analysis showed the milk to contain 16½ per cent. of added water. Mr. Taylor, for the defence, submitted that the milk was sold as purchased from Mr. Laycock, and the adulteration was done by someone in his employ. Miss Ward, grand-daughter of Mr. Laycock, stated with reference to the milk in question, that she added the water. Whilst milking the cow, the animal upset the pail, and to make it up somehow she put the water in. (Laughter.) Defendant was fined 40s., and costs, or one month.

At Leeds, on February 27th, John William Doughty, farmer, Cookridge, near Leeds, was fined £5 or one month's imprisonment at the City Police Court, for supplying milk to a dealer in Leeds which was certified to contain 20 per cent. of added water. Mr. C. C. Jolliffe (Deputy Town Clerk) prosecuted. Inspector Walker proved the case.

At Portsmouth, on March 5th, George Hoar, Crescent Square, New Road, Buckland, was charged with selling a pennyworth of milk from which 23·3 per cent. of cream had been abstracted. Inspector Scott stated that he purchased the milk. After examination by the Borough Analyst, it was found that the milk was impure to the extent already named. There was no previous conviction against him, and taking this into account the Bench imposed a fine of £3 8s. 6d., including costs.—William Chivers, milk purveyor, living at 7, St. Helen's Avenue, Cottage Grove, Southsea, was summoned for selling a quantity of milk from which 70 per cent. of cream had been abstracted, on the 1st ult. Inspector Scott stated that he purchased a pennyworth of milk from defendant in Lincoln Road. The latter did not keep a shop, but went round with a bucket. Defendant, who did not appear, had been convicted once previously in 1887, and was now fined £3 and 8s. 6d. costs, or 21 days' imprisonment. Mr. G. H. King prosecuted in both cases.

**WEIGHTS AND MEASURES PROSECUTIONS.**—Elizabeth Eckersley, grocer, Elliott Street, Tyldesley, who was represented by her son, and who pleaded guilty, was charged with selling bread otherwise than by weight. Inspector Shepperd said he purchased a loaf on the 19th ult. which was seven drachms short of 2lbs. Costs were inflicted in this case.—Edward Bevington, grocer, Bradshawgate, Leigh, was charged with selling bread otherwise than by weight on the 20th ult. and pleaded not guilty. Defendant said he weighed every loaf he sold before putting them in the oven. He thought the purchaser, by the Act of 1889, had to express a wish to have the bread weighed. The Chairman said he did not doubt that defendant had no intention of defrauding, but according to the Act bread had to be weighed, and costs would be inflicted.

At Ashton, on February 28th, Henry Butson Please, grocer, Waterloo, was summoned for selling bread otherwise than by weight. He pleaded guilty. A constable said he visited the shop kept by defendant and asked for a small loaf. Mrs. Please handed him a loaf without weighing it, for which she charged 2½d. The officer weighed the loaf, and found it to weigh 1lb. 13ozs., whereupon Mrs. Please said, "I hope you are not taking it as a test case, as the man who supplies the bread to me does not weigh it." Addressing the magistrates, defendant now said he had sold bread for 21 years, and he had never been asked to weigh it. He was not aware that the bread had to be weighed. The officer simply asked for a small loaf, and this was handed to him. The Chairman (Mr. Grundy): I should have thought you would have seen enough in the papers about these cases. People are constantly being fined. Defendant: What is the weight demanded! The Clerk: You must weigh the loaf, and tell the purchaser the weight. The Chairman: That is the law, and it will have to be obeyed. You will be fined 5s. 6d. and costs. Defendant: It is merely a farce. The Clerk: There is no farce about it. You have to weigh the bread.

Amos Brooks, Charlestown, was charged with selling bread otherwise than by weight. Mr. Garside Ives, solicitor, Stalybridge, defended on behalf of the Stalybridge, Ashton and District Grocers' Association, and at the outset raised a technical objection to the summons. Defendant was charged with an offence under the Weights and Measures Act, and he contended that this Act had nothing to do with it. Had defendant been charged under the Bread Act he (Mr. Ives) should have advised him to plead ignorance of the law.—The Clerk ruled that the magistrates had jurisdiction under the Weights and Measures Act, and accordingly the case proceeded.—A constable said that on the 31st January, he saw a vauman named Ingham, in the employ of Brooks, deliver twelve loaves at a shop at Waterloo without weighing them. The officer asked Ingham why he had not weighed the bread, and he said the shopkeeper never asked him to do so. Witness weighed the loaves, and found them to weigh from 1lb. 9½ozs. up to 2lb.—For the defence Mr. Ives submitted that his client should not be fined, but merely ordered to pay the costs. The Act had not been enforced for 50 years, and was practically a dead letter. Defendant had no objection to weigh the bread.—The Chairman said he considered the Act a good one. The amount of cheating which took place in the selling of bread was fearful. Brooks would be fined 5s. 6d. and costs.

**MARGARINE PROSECUTIONS.**—At Great Yarmouth Police Court on February 26th, Laura Edwards, shopkeeper, 2, South Market Road, was summoned for selling adulterated butter, and also for selling the same without being properly labelled. The Town Clerk prosecuted, and Mr. G. H. L. Blake defended. Mrs. Elizabeth Miller said, acting under instructions of Inspector Hassall, she went to Jubilee Dairy, to purchase a pound of butter; at that time Inspector Hassall went into the shop, and stated the butter had been purchased for the purpose of analysis. He ultimately received the certificate from the Public Analyst, stating that the sample contained 85 per cent. of foreign fat. Cross-examined: There was no concealment by defendant. She did not state where the butter was purchased. Mr. Blake submitted that his client had for some time purchased butter from Mr. Loveday, of Norwich. She had always bought it as dairy butter. She had no instruments for knocking up the butter, and was not aware of the law rendering her liable to prosecution unless she had a guarantee. Under these circumstances his client must submit to a fine, but he should ask the Bench to believe that his client had acted in a *bona-fide* way, and leave the case in their hands, to deal with as leniently as possible. The defendant corroborated Mr. Blake's statement. The Mayor: Could you not have detected it in some way? Defendant: No. Mr. Blake: It was sold as good butter; the customers liked it. The Mayor said it was a very bad case; the Bench thought her suspicions ought to have been aroused. The public must be protected. Defendant was fined £5 and costs, or a month. The Bench hoped that Loveday would be proceeded against, and that Mrs. Edwards would be able to recover the money.

At Leeds on March 2nd, John Healey, grocer, 48, Kirkstall Road, Leeds, was summoned by Inspector Walker, for having exposed margarine for sale, not having the label as required by law. A fine of 20s., including costs, was imposed.

At Blackburn, Thomas Aspin, grocer, Feniscowles, was summoned by W. J. Parkinson, inspector for the Royal Lancashire Agriculture Society, for exposing margarine without a label, and also for selling margarine without a printed labelled wrapper. Mr. Carter prosecuted, the defendant being represented by Mr. Read. Inspector Parkinson, on January 24th, visited the defendant's shop and there saw a substance, apparently butter, for sale, and on asking the price he was told it was margarine. He purchased a pound of it and sent a sample to the county analyst, who certified that it contained seven per cent. of water and 75 per cent. of fats other than butter. The defendant, said Mr. Read, sold nothing but Kiel butter, and never, except in this instance, had any margarine been sold in the shop. He kept a small quantity of margarine for the purposes of confectionery, and the offence was committed during his absence by his daughter



who did not know the provisions of the Act. The magistrates said they thought a technical offence had been committed, and they imposed a fine of 10s. and costs in each case.

At Birkdale on March 1st, William Birtwistle, grocer, Liverpool Road South, was summoned for exposing margarine for sale without having it properly labelled. Mr. W. J. Worden, who defended, stated that the defendant was simply carrying on the shop on behalf of the executors until it could be disposed of as a going concern. There was a very small quantity of margarine on the counter, and in a few minutes it would have been taken into the bakehouse. It had been labelled, but the label had got rubbed off. The defendant was fined 40s. and costs.

Wm. Emmings, Liverpool Road, Southport, was summoned on March 1st, for exposing for sale margarine not properly labelled, and also for selling it in a wrapper not properly marked. Inspector Parkinson on 18th January purchased from an assistant in defendant's shop two half-pounds of margarine, paying 9d. for one and 6d. for the other. The margarine on one counter was not labelled, though the assistant afterwards drew his attention to a label with  $\frac{1}{4}$ -inch letters. The packets were stumped with letters of the same size instead of  $\frac{1}{2}$ -inches. The samples were analysed and the dearer sample was five per cent. worse than the other. The defendant said he did not know that there had been any alteration in the law as to the size of the letters. The defendant was fined 10s. in each case.

CAMPHORATED OIL PROSECUTION.—John Walton & Co., Maiden Bradley and Mere, Wilts, were summoned at Warminster, on March 1st. The case was before the Bench and previously dismissed on the technical objection that proceedings should have been taken under a different section of the Act. The county council appealed, and the High Court sent the case back to the magistrates to be reheard. For the defence it was now stated that camphorated oil was only kept on the premises for the convenience of customers, and that defendants had no knowledge of the extent of its evaporative nature. The Bench imposed a fine £1 and costs.

UN SOUND MEAT PROSECUTIONS. — At Clerkenwell, on February 27th, Coopman & Young, St. John Street, Smithfield, E.C., were summoned by the Holborn Board of Works for having deposited at their premises in St. John Street, for the purposes of sale, six pieces of bacon, weighing 96 lb., which were diseased and unfit for human consumption. Messrs. Van den Berghs (Limited), Mincing Lane, E.C., were also summoned for selling the above-mentioned bacon to Messrs. Coopman & Young. Mr. Matthew Hale, solicitor and clerk to the Holborn Board of Work, prosecuted. Mr. Slater appeared for Coopman & Young, and Mr. George Elliott (instructed by Messrs. Neeve & Beck) for Van den Berghs (Limited). The defence raised was that Van den Berghs people believed the meat to be only bruised, and that Mr. Young accepted that explanation. The bacon was imported from Denmark. Mr. Bros imposed a fine of £25 upon each of the defendant companies.

At Wolverhampton, on March 3rd, Thomas Evans, butcher, Glen Cottage, Tyrsull, was summoned for exposing six pieces of meat, weighing 307 lbs. for the purpose of preparation for sale, and intended for the food of man, such meat being diseased and unfit for food. Mr. Kendrick (from the Town Clerk's office) prosecuted, and Mr. Dallow defended. Mr. Kendrick said defendant carried on business at the Bilston Market Hall. On January 19th the Medical Officer of Health visited the L. and N.W. Railway Station, Wolverhampton and found a large quantity of meat in a van there consigned to "T. Evans, Ettingshall," and which had come from Newport. He seized a quantity of the meat, and it was condemned by a justice. Inspector Peers stated that the meat was "blown." Cross-examined: The meat in the van was in two portions. When he visited defendant he admitted that a sheep's head, liver, and lung belonged to him, but not the rest. Defendant's name was on the van. Dr. Malet said the meat was emaciated, and evidently of very bad quality. On inspection, it was found to contain evidence of tuberculosis disease, while the sheep's lungs was studded with tuberculosis. The meat had been very carefully trimmed and dressed, evidently for sale. John Edward Taylor, station master, Newport, stated that on January 19th defendant consigned 4 cwt. meat to himself to be delivered at Ettingshall. Some other meat was consigned by Mrs. Canlin to be delivered at the same place, both lots were placed in the same van. Mr. Dallow submitted there was no evidence that defendant ever said the meat was his property. It was not shown that the meat was the property of the defendant or another consignor. Ernest James Gough, of the Health Department, was called, and spoke to the conversation, at one stage of which Inspector Peers "reminded Evans that her husband and herself would be prosecuted unless they told him to whom the meat belonged." Further questioned, witness said that Peers had said "that if they did not tell him they would be prosecuted." The Clerk said that Peers was in the position practically of a prosecutor, and if he threatened the defendants or offered them any inducement to make any confession or statement it would be absolutely inadmissible. Mr. Dallow then held that there was no legal evidence, and the Bench dismissed the summons. The Magistrates' Clerk hoped the stationmaster at Newport would be more careful in future in making out consignment notes, and that the name of the consignor would be entered, so that the next case might be proved.

PEPPER ADULTERATION PROSECUTION.—Henry Goodhind, Queen Street, Dartford, was summoned on February 24th, for selling adulterated pepper. The sample contained only 50 per cent. of pepper. Mr. T. G. Baynes said his client purchased the pepper from a traveller who represented that he was travelling for Messrs. H. M. Watson & Co., 41, Wellington Street, Deptford, a firm which he alleged was non-existent. He gave 11d. per lb. for it and received a warranty as to its purity. The Bench imposed a nominal fine of 15s. including costs.

ALUM IN BAKING POWDER PROSECUTION.—At Chippenham, Wilts, on March 1st, John Henry Harding, grocer, was charged by Inspector Smith, for the Wilts County Council, under Section 6 of the Act of 1875. Mr. Bevir appeared for the Council. Defendant was not legally represented. Mr. Bevir said that Mr. Smith caused to be purchased at the defendant's shop in the Market Place, Chippenham, a packet of baking powder, labelled "Alpine Baking Powder," prepared by H. Matthews, of 67, High Street, Plymouth. No doubt Mr. Harding bought and sold the article in question in the ordinary course of trade, but it was sold to the prejudice of the purchaser and was not of the quality demanded. The analysis showed that there was at least 14 per cent. of alum in it. The label stated that the article was most nutritious and a great preventative of indigestion, but the analysis proved that to be diametrically untrue. This was not a fancied complaint, but one that went to the root of the case meant to be dealt with by the Act. Baking powder should contain tartaric acid, which cost about £5 per cwt., whilst alum cost about 5s. Mr. Harding admitted selling the powder, but had no idea that it was adulterated, and bought it at a fair commercial price. The Chairman said they would take it that the defendant was ignorant of the ingredients, but he should not sell an article as described unless he got a guarantee. That was the first case that had come before them; but they wished to point out that the whole onus fell on the retailer. For the benefit and protection of the public they were obliged to administer the law, but they would in this case only inflict the mitigated penalty of £3, to include costs.

BORACIC ACID IN CREAM PROSECUTION.—At Brentford, on February 26th, G. E. Watkins, High Street, Hounslow, was summoned for having sold cream which contained 0.93 per cent. of boric acid; and further under Section 6 of the same Act for having sold cream not of the nature, substance, and quality demanded. The West Surrey Central Dairy Company, of Guildford, were also summoned under Section 27, Sub-section 4, of the 1875 Act for having given a false label on a bottle of cream, and under Section 3 for having ordered or permitted a person unknown to mix boracic acid with cream to the extent of 0.93 per cent. with intent that the same should be sold in that state. Dr. Herbert Smith prosecuted on behalf of the Middlesex County Council, and Mr. Bodkin defended. Mr. Bodkin asked for an adjournment on the ground that there was a Departmental Committee sitting to go into the question of preservatives in foodstuffs and to make regulations guiding the Board of Agriculture as to the standard of such preservatives. The Chairman said that it might be months before Commission would report, and then the Board of Agriculture would have to take the matter up. The case had also already been adjourned several times, and as all parties were before the court it could be gone into, though the court might withhold its decision till they knew what the Commission would do. On December 9th Inspector W. Tyler called at the defendant Watkins's shop and purchased a jar of cream. He was served with one which bore the name of the West Surrey Central Dairy Company, of Guildford, and it had on the following label:—"We guarantee our cream to be absolutely pure and free from any thickening or sweetening matter often added to cream to mask its inferior quality.—(Signed) West Surrey Central Dairy Company." Mr. Watkins declined to have the sample divided, and pointed out that jar had not been opened, and was just as it was delivered to him. It was sent to the analyst, who certified as follows:—"I am of opinion it contains boracic acid equal to 0.93 per cent. of borax, and that the sample had undergone no change which would interfere with the analysis." Inspector Tyler knew Mr. Watkins was a highly reputable man, and had no doubt that he sold the cream as it was delivered to him. The West Surrey Dairy Company had been convicted of sending adulterated milk into Middlesex last August. Mr. Edward Bevan, the analyst, said pure cream ought not to have borax in it, as it was not a constituent part of cream. He agreed that borax was the commonest form of preservative in use for all classes of food—bacon, cream, butter, and milk. It was easy to detect its flavour if used in excess. It would give a metallic flavour to the food if too much were used. It could be tasted in the sample before the court. The action of salt in butter would be a preservative. He should call butter which contained 3 grains of salt pure, recognising salt as a preservative. The property of borax was to arrest decomposition; judged by other acids its acidity was not very great. He was of opinion that borax was not necessary in the cream, though other authorities differed from this view. Dr. Bell, of Glasgow, and Mr. Bond, of London, were high authorities, and they did not object to boracic acid in cream. There was ten times more borax in this cream than was necessary. Borax was a drug, and it must do evil if taken constantly by persons in poor or indifferent health. The cream could be kept fresh and free from decomposition by a refrigerator. Dr



Stevenson said anything over 10 or 15 grains of boracic acid would be injurious to adults. In the case of infants it would be far worse, and nothing more than 5 grains should be a dose at a time; 0.93 per cent. was equal to 0.6 per cent. of boracic acid, and to 16 grains of boracic acid in 6 oz. In cases where weak persons were fed on the cream it was highly necessary that it should be pure. He was of opinion that it was not needed in cream to stop decomposition; the same end could be obtained by refrigerating. The object of the use of boracic acid was that grocers could keep the cream in stock a long time. Dr. L. B. Diplock, Chiswick, said boracic acid was most injurious to young children; it impaired digestion, brought on malnutrition and diarrhoea and vomiting, in summer often fatally. Cream was largely mixed with infants' food. Assuming cream with 0.93 per cent. of borax was mixed with milk it would have very bad effects. Mr. Bodkin claimed a warranty on behalf of Watkins. The invoice with the consignment stated "Pure rich cream," and on the jar were the words, "We guarantee our cream to be absolutely pure, etc." These two documents under *Lindsay v. Rook* made a warranty. Dr. Smith said that the words used were a notice to the public, not to the vendor. The invoice was nothing, and the statement on the jar would not entitle the vendor to found an action against the wholesale firm, which of course was the essence of a warranty or guarantee. On this point *Irons v. Van Tromp* applied conclusively. The Bench held the documents were not a specific warranty under Section 25 of the Act. Mr. Bodkins said that he quite accepted the view of the Bench that the case should stand adjourned at this stage. He was not prepared to meet the case that day, but when it came up to be finally argued, when the Court was ready to deal with it, some witnesses of very high character would be put into the witness-box. The sole question would hinge on the three words "injurious to health," and he might say that whatever the result would be the West Surrey Central Dairy Company would be perfectly frank with Mr. Watkins and would relieve him of responsibility. Should the Board of Agriculture make regulations that  $\frac{1}{2}$  per cent. could be put into cream then the amount in the sample would be incorrect, though boracic acid would be permitted. The Chairman said that the Bench had to look at the point of health. The Bench must guard the lowest, because boracic acid might not affect healthy persons, yet it might those not in health. Would the defendants agree not to use any more boracic acid in the cream? Mr. Bodkin said no. It would be unfair to his clients, because they would be stopped, whilst tons of American goods could come into the country untouched. This had been going on for over twenty-three years without objection, and no one had ever been killed by eating cream. Dr. Smith said that the makers might put on the jar that the cream contained boracic acid. Mr. Bodkin said he did not object to that at all. He would undertake to state on the label that it contains so much boracic acid. The Bench concurred in this view, directed the label to be submitted to them within a week, and adjourned the further hearing *sine die*.

**UNSOOUND FOOD PROSECUTION.**—At Nottingham, on Feb. 16th, Oliver Morris, a young man, carrying on the business of a fruiterer in Arkwright Street, pleaded guilty to a charge of exposing fruit for sale which was unfit for human food on the 22nd of last month. Mr. H. W. Day (from the office of the Town Clerk) appeared to prosecute, and explained that when Inspector Samuel Billington called at the defendant's shop he saw a number of bananas exposed for sale, amongst which were fifteen that were in a very bad state, and totally unfit for human food. They were offered at very low prices, no doubt with the object of inducing custom. Dr. Boobyer (Medical Officer of Health for the City) and Inspector Billington briefly substantiated the foregoing, and the defendant, in defence, urged that he had only been in business a few weeks, and did not know they were bad. The Chairman reminded Morris of the serious nature of the offence, for which he was liable to a penalty of £20 for each of the fifteen bananas. He must, however, pay 20s. or 14 days.

**WEIGHTS AND MEASURES PROSECUTIONS.**—At Leeds, on March 1st, Jacob Taylor, grocer, 55, Stamford Street, off North Street, was fined £3 or one month's imprisonment for having in his possession for use for trade seven weights which were all unjust against the purchaser, caused by the weights having been used as hammers.—George Wigglesworth, coal hawker, 1, Holdsworth Fold, Richmond Road, was fined a similar amount for having in his possession for use for trade a 28lb. weight which was 12oz. unjust against the purchaser. Mr. A. H. Rutherford, Chief Inspector of Weights and Measures, prosecuted, and Inspector T. G. Roberts proved the cases.

James Dransfield, a butcher, carrying on business at 144 and 146, Manchester Street, Oldham, was fined at the Oldham Police Court, on March 3rd, 10s. and costs for using an unjust weighing instrument which was eight drams against the purchaser.

**COCOA PROSECUTION.**—Joseph Saunders, grocer, Whitstable, was summoned on February 24th, for selling cocoa, which was certified to consist of 50 per cent. of cocoa, 34 per cent. of sugar, and 16 per cent. of starch. Defendant stated that was chocolate powder, and sold it at 6d. per lb. His wife neglected to put a label on the packet. Pure cocoa would cost 1s. 8d. per lb. Samples of Demerara sugar, lard, butter, pepper, mustard, arrowroot, tobacco, tapioca, and olive oil, taken at the same time, all proved to be genuine. Defendant was fined 20s. including costs.

**DEMERARA SUGAR PROSECUTION.**—At Cwmbran, on Feb. 22nd, the Monmouthshire County Council prosecuted George Giles, grocer, Llantarnam, and Henry James Cocker, grocer, Oakfield Store and Free Trade Hall. Inspector Lewis gave evidence of the purchase of the sugar, which, he said, was sold as Demerara, but was grown in Martinique. Mr. Moore admitted a technical offence, and Mr. J. W. Gardner, the representative of a wholesale firm of sugar importers, stated that owing to the scarcity of Demerara sugar, sugar from Martinique was being sold as Demerara. It was not an inferior article, and by the time it reached Newport it cost as much as the genuine Demerara. The Bench intimated that there would be no conviction, there being no intention on the part of defendants to defraud. It was, however, a technical offence, and the costs in each case, 15s. were ordered to be paid.

**GOLDEN SYRUP PROSECUTION.**—At Manchester, on February 27th, George H. Threadfold, Bury New Road, Prestwick, was summoned. On January 23rd, the inspector called at the defendant's shop and purchased two pounds of golden syrup, for which he paid 5d. The syrup was certified to contain 70 per cent. of glucose. Defendant said he sold the syrup exactly as he bought it himself. He did not receive a warranty with it. A penalty of 10s. and costs was imposed, the Chairman remarking that the person who sold the syrup to the defendant ought to pay the fine.

**ARROWROOT PROSECUTION.**—At Halstead, Essex, on February 27th, Thomas Gallifant, grocer, of Earls Colne, was summoned for selling arrowroot adulterated with 100 per cent. of borax. Inspector Elsey said he believed a mistake was made by the defendant, who served him with borax for arrowroot. The mistake was not a serious one in this case, but it might have been. The county analyst had certified that the sample submitted to him consisted of 100 per cent. of borax. The Chairman (Mr. G. Courtauld) said the defendant's mistake was a very curious one, but it was evidently made with no intent to defraud. Fined 1s., and costs 8s. 6d.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### Irish Butter v. Danish.

SIR,—I have just received the balance-sheets of two co-operative creameries for the year 1899.

One received 523,993 gallons of milk, for which the average price paid was 4.09d. per gallon. The net profit, after writing off £79 1s. 7d. for depreciation, was £207 4s. 8d.

The other received 408,666 gallons of milk, for which the average price paid was 3.93d. per gallon.

After writing off £68 19s. for depreciation, there was a net profit of £109 17s. 11d.

The farmers who supplied those creameries received for their 932,000 gallons of milk 4d. per gallon on the average, and above that have made a net profit of £317.

It is often most falsely stated that Danish butter is superior to Irish, and fetches higher prices. Now I challenge the production of any two balance-sheets of Danish creameries situated in anything like similar positions to the two Irish creameries, and, as these balance-sheets are, audited by a public auditor: then we shall see whether the Irish or Danish producer is the better and which is the better paid.

Both those creameries are about nine miles from a railway station and about twenty miles from here, and over forty miles from Cork, so that they have heavy cartage of butter and coal and no advantage of proximity to markets or to centres of population.

Let us see now if the Dane can substantiate his claim to superiority in any way besides putting out weekly a false quotation, which only represents what a small portion of his makes fetches, whilst the bulk of his make has to be sold off landed, often shillings below the Copenhagen f.o.b. quotations. Why? Because merchants know they dare not hold it, as it is not cured with preservative, and because a lot of it is pasteurised and turns oily, and becomes more like margarine than like butter after being overheld even for a short time.

I am, &c., R. GIBSON.

Public Creamery Market, Limerick, February 27th.



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## Food and Sanitation.

SATURDAY, MARCH, 17, 1900.

### Golden Syrup: What it is.

THE very interesting question "What is Golden Syrup"? is not likely to be answered in the way many grocers thought it would be, the trade having followed the advice of Mr. John Williams and left to the manufacturers the fighting of what is above all

a manufacturers question. The Liverpool Grocers' Association, which was supposed to be vitally interested, as its last meeting considered a letter from Messrs. Macfie and Sons asking for the assistance of the Association in their appeal at the forthcoming Sessions against the conviction of Mr. T. Garrett in respect to the sale of a tin of their golden syrup. He would be glad if any members of the committee could attend and give evidence before the Recorder. Mr. Garrett hoped that Mr. Kellitt (the chairman) himself would give evidence, both because he was president of the Association and because he was a magistrate. If they gained this appeal it would be the means of preventing the authorities from harassing the trade in this manner. Mr. Garrett said that the article in respect to which he was fined was sold exactly as he received it, and throughout his 37 years' experience of the trade he had never attached any significance to the word "golden," always understanding that it simply meant clear syrup as distinct from black treacle. The Chairman said that this was an important case, for if the authorities insisted that golden syrup must be the pure product of the cane they would have to drop the use of the term golden. Mr. Kavanagh said he did not see why Messrs. Macfie should put the word golden on the labels at all. It being stated in the course of further conversation that the golden syrup in question contained 75 per cent. of glucose, and that the Stipendiary ruled that the description of golden syrup was wrong as there was more glucose than syrup, and as it was also pointed out that this was more glucose than was necessary to meet the statement on the label that glucose was added for the purposes of granulation, it was decided that the Association could not take any action in the matter.

We have never been able to understand why grocers should be looked to for support whenever manufacturers—who get grocers into trouble—have to face the music. The Liverpool Association does well to let whole-salers Pay! Pay!! Pay!!!



## Dietetic and Hygienic Notes.

### The Absorption of Strychnin by the Alimentary Canal.

MELTZER (*American Journal of the Medical Sciences*) has made a series of experiments on dogs for the purpose of studying the absorption of strychnin from the alimentary canal, choosing that drug for the study of absorption chiefly on account of its characteristic reaction upon the animal—the appearance of a tetanus is a sure proof of the absorption of a sufficient quantity. The effective doses and the times which elapse between the administrations of the poison and the appearance of the tetanus can serve as units for the comparison of the powers of absorption in the different parts of the alimentary canal in the same class of animals. The author believes that the experiments embodied in his paper have established the following points:

The absorption of strychnin in the stomach is incomparably lower than in any other section of the alimentary canal, and, furthermore, the absorbent power of the fundus seems to be even lower than that of the entire stomach. The power of absorption in the œsophagus is somewhat better than in the stomach, but is still considerably inferior to the absorption within the other parts of the alimentary canal.

The power of absorption in the other three parts of the canal—i.e., the small intestine, colon, and rectum—seems to be equal. The differences which were observed are too small and the method not yet exact enough to justify the assumption of an actual difference in the absorbing power of these parts. However, these experiments brought out the following remarkable facts: that the isolated rectum absorbs at least as well as the small intestine; that in some experiments the effects appeared earlier when the rectum was isolated than when it had free connection with the balance of the gut; that from no part of the canal were such short intervals between the injection of the strychnin and the appearance of the tetanus observed as were frequently seen when it was injected into the rectum. In the latter case the interval was sometimes only two or three minutes; finally, impaction of the rectum proved to be no hindrance to the prompt absorption of the poison therefrom.

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### The Dietetic Treatment of Gastric Hyperacidity.

The following abstract of a paper by Bachmann, on "Experimental Studies Concerning the Dietetic Treatment of Hyperacidity," published in the October number of the *Archiv für Verdauungs-Krankheiten* is taken from the *Philadelphia Medical Journal*.

"Bachmann reviews the literature concerning diet with hyperacidity and the effects of various foods upon the secretion of gastric juice, and then details his own experiments, which consisted in administering to twelve patients with hyperacidity, many of them showing also continuous hypersecretion, test-meals composed of beefsteak, eggs, milk, butter, and cream as examples of animal foods; of bread, oatmeal, and potatoes as vegetable foods, and of combinations of these. The caloric value of the test-meals was always kept at about the same point in order that the results might indicate the usefulness of these substances in actual practice. The stomach was washed out, the test-meal was administered and every fifteen minutes or half-hour a portion of the stomach-contents was removed for testing. Each patient was put through the test two or three times, and if the individual results were about the same he was then dismissed. If, however, there were variations, the tests were repeated still further. In all about 1250 separate examinations were undertaken. The microscopic appearance of the stomach-contents was noted,

the presence of hydrochloric acid, the total acidity, the pepsin-digestion, the presence or absence of lactic acid, and the results of the iodine-test for the condition of starch-digestion. It was found that free hydrochloric acid appeared more quickly after taking vegetable substances than after animal foods, the average being one-half hour later after animal food than after vegetable. The animal foods caused a higher average for free hydrochloric acid than the vegetable. Butter and cream caused a reduction in the amount of free hydrochloric acid; the total acid was found less after the use of milk, bread, potatoes, and oatmeal, somewhat higher with an egg meal, and decidedly higher after taking beefsteak. The total acid was lowest after taking bread and highest after beefsteak. There were no definite variations seen in the pepsin-digestion after the various meals; the stomach was emptied most rapidly after using bread, oatmeal, milk, and potatoes, the time for emptying with these being about the same; eggs took longer, and beefsteak decidedly longer. The addition of butter and cream caused a decided protraction of the time of retention of food in the stomach. After using potatoes there was a decided reaction for lactic acid; the same was true always after using meat, only once after using milk, and never after eggs. It seemed that lactic acid was rapidly formed from the starch of potatoes.

The important decisions reached are that fats (butter and cream), when added to other foods, cause a distinct reduction in the hydrochloric acid secretion. Beefsteak caused the greatest irritation of the secretory glands and eggs the next; while oatmeal, bread, potatoes, and milk caused comparatively little irritation. The meals composed chiefly of animal foods caused much greater secretion of hydrochloric acid than those that were chiefly vegetable. As to the influence upon the digestion of starches the irritative state of the stomach seemed to cause some disturbance of this, but it was not marked, and it cannot be considered of much importance as a contraindication to the use of starches since the pancreatic secretion is perfectly able to carry on the starch-digestion, even though it has not reached a normal stage before the foods are passed into the intestine. Bachmann believes that the vegetable foodstuffs together with milk are of much greater value in the dietetic treatment of superacidity than the animal foods. Potatoes cause usually some disturbance, however, and increase the total acid through the production of lactic acid, and are, therefore, of less value than bread and cereals. Butter and cream should be considered as not only allowable, but decidedly to be recommended since they decrease the acid secretion."

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### The "Nicotine Superstition."

FROM an article by George M. Gould on "Habit Disease and the Tobacco Habit," in a recent issue of the *Philadelphia Monthly Medical Journal*, we extract the following remarks. Those of our readers who have some acquaintance with the literature of the subject and who have read the review of Thoms' analysis of tobacco smoke in the January number of the *Dietetic and Hygienic Gazette*, will scarcely be inclined to endorse all the statements made by Dr. Gould:

"Books have been written and books will long continue to be written concerning the effect of tobacco smoking upon the human system, but so far as I can see we to-day know utterly nothing about the question. All that has been done heretofore seems comparatively useless and meaningless, because investigators and writers have had in mind only the immediate effects of measurable doses, whereas all that concerns us are the remote effects of the habitual use. Concerning this we know nothing. I suspect this ignorance is in great part



due to the fact that the effects on different peoples and different individuals are different, and, therefore, that they are not classifiable. Moreover, there are tobaccos and tobaccos. Certainly the effects depend upon the kind of tobacco used, upon the method and the quantity used, and upon the ever-varying peculiarities, physical and psychical, of the individual smoker.

There are still several other reasons why all previous investigations and conclusions are valueless, one of which is that all attention has heretofore been directed to the nicotine of the tobacco. French, Virginia, and Kentucky tobaccos contain from 6 per cent. to 8 per cent., while Maryland, Havana, and Levant growths yield only about 2 per cent., and those of China and Sumatra only about 1 per cent. The most delicate and the most used are, therefore, not those containing the most or the least nicotine, and this factor does not, indeed, seem to be test of popularity nor the condition of satisfaction.

Finally, we have just had thrown at us one astonishing discovery which shows how blind we have been in all our previous gropings after truth and light. In the June number of the *Contemporary Review*, Dr. G. Clarke Nuttall whispers "Bugs"!—and we can foresee the possible clearing up of many mysteries. In a word, all the qualities, the curings, the physiological effects, etc., of tobacco are due to bacteria. "Curing" tobacco is only providing culture mediums for bacteria and stopping or modifying their growth to produce certain results desired by smokers. As to these living organisms are due all the flavours of butter, and the taste of cheese, so to them are now traceable the peculiarities and characteristic effects of tobacco. To a Dr. Suchsland, of Germany, we are indebted for this discovery. Transport and transplant Havana bacteria to Germany and tend them properly on poor, cheap German tobacco, and, behold, you have products like and as fine as those of Havana! Dr. Nuttall suggest that it is so completely a question of the agency of bacteria, local and general, that it may turn out that the tobacco-plant will not be the only one on which they can be grown, but that we may, e.g., use cabbage leaves for the purpose, and by-and-by smoke cabbage-cigars with all the delight we now think is to be found only in the leaves of *nicotiana tabacum*! Thus the nicotine superstition is still more completely set aside, and we enter upon future research of other constituents, and of their production by means of living agencies which we can study and change at will."

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### The Physiological Effects of Alcohol.

In a report on "Alcoholism in the Hospitals of Paris," made to the *Société médicale des hôpitaux* of Paris, Jacquet, one of the members of a committee charged by this society with the investigation of that subject, draws a gloomy picture of the ravages caused in France by alcoholism, an evil the combating of which he considers the first social duty of the present day. The following brief statement of the views now very generally held concerning the physiological effects of alcohol is taken from the report as published in the *Bulletin médical*.

The first physiological investigations have shown that alcohol stimulates the secretions of the digestive juices, quickens the circulation, and raises the temperature—in short, that it has a favourable influence upon nutrition. This is true of certain conditions, of certain doses, and for a certain time; numerous experiments prove it, innumerable publications have popularized a knowledge of their results, and thus was started what Legrain has aptly called "the therapeutic alcoholatry." But it is true, also, that when the conditions are changed, and when the daily consumption becomes more and more frequent, this same alcohol slows, cools, enfeebles, and depresses. Besides, as Joffroy has pointed out, it is a matter of experience that the acute toxic energy of a given substance does not necessarily afford a measure of the chronic intoxication caused by this substance—an important fact which

applies especially to ethyl alcohol, the basis of all spirituous beverages.

As regards the pretended food value of alcohol, it has in turn been affirmed and denied. Most experimenters regards it as *nil*; some of them uphold it, but only in a restricted sense. The latter regard alcohol as an expensive food, "three times dearer than milk, and eight times dearer than bread," and this is the conclusion to which the most favourable experiments have led, experiments that had in view merely the *immediate* effect without regard to the ultimate consequences, which are more serious than even the most ardent enemies of alcohol believe them to be.

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### The Evolution of "Ketchup."

"ONE of the trials," says the *Cleveland Journal of Medicine*, "of our younger days was to spell the name of the sauce that was and still is pronounced 'ketchup.' Such as had mastered 'c-a-t-s-u-p' were on the top shelf of culture." From catsup we filtered down to katsup, then to catchup, and finally to ketchup. A man over in New Jersey made a million dollars at bottling tomatoes, and married his daughter to a real prince. Now comes a man up in the interior of the Empire State of New York who offers 'grape catchup' as the finest modern relish. It is made from 'selected Catawba grapes,' and beats the old-fashioned home-made tomato catsup to death.

"The real fact in regard to the good old word ketchup is quite the reverse of the idea given above. It is one of those instances of over-refinement introduced by people who are a little too sensitive for plain English. As a matter of fact, the East Indian word kitjap was changed to ketchup. It was evidently revolting to people of culture to say ketch instead of catch, and the word was changed to catchup. It was then obvious that there was nothing to be caught about it, and that it must be derived from catsup, the association of ideas possibly coming from the resemblance in colour to a tortoise-shell cat. Thus was the 'kit' evolved into a 'cat' along purely linguistic lines."

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### The Digestibility of Sterilized Milk.

SINCE bacteriologists have taught us to look upon untreated cow's milk as a fruitful source of infection, especially dangerous to infants, it has become the universal practice among physicians to insist upon its being exposed to the prolonged influence of heat, i.e., sterilized. The too exclusive use of milk thus prepared has been condemned by some authorities—not wholly without reason, it seems—so that the question may still be regarded as open to discussion.

To determine the relative digestibility of fresh and sterilized milk, Jemma (*La clinica medica Italiana*) has undertaken a series of laboratory experiments which show that under the influence of pepsin and hydrochloric acid fresh milk is more readily digested than sterilized milk, while the reverse takes place when the two fluids are subjected to the action of pencreatin. When acted upon by artificial gastric juice sterilized milk produces a greater quantity of peptones during the first four hours than fresh milk, but after that period the latter proves to be the more easily digestible. Practically the same results were obtained on using labferment, pepsin and hydrochloric acid. The action of labferment and pancreatin was more pronounced in the case of sterilized milk.

In a second series of researches the author set himself the task of determining the relative digestibility of sterilized milk and of milk diluted with a 10 per cent. solution of sugar-of-milk. In every instance the advantage was on the side of the diluted milk.

The conclusions drawn by the author from these data are:

1. Milk submitted to the sterilizing action of heat



shows no impairment of digestibility, which is superior to that of raw milk.

2. Milk that has been sterilized and diluted with a solution of sugar-of-milk is more easily digested than pure sterilized milk.

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### The Movement to Prohibit Preservatives in Food.

At a meeting of the West Cheshire Farmers' Defence Association, Mr. W. Foulkes Lowe (Chester City Analyst), read a paper upon the subject of chemical preservatives and their use in connection with dairy produce. In his opinion the use of preservatives in all but a few cases should be entirely prohibited, and even where preservatives were considered allowable a standard should be fixed, and the quantity and nature of the preservatives should be distinctly stated, and any excess should render the vendor liable to prosecution. Articles such as butter would keep if proper precautions were observed. When articles of food were required to be kept for long periods. The best means was cold storage, by which means all food, even fruit, could be preserved without deterioration. In most cases preservatives could hardly fail to be injurious to health, and especially to the health of weak persons and young children, and the habitual use of the powerful drugs used as preservatives was liable to injure the digestive organs of strong people by retarding or arresting the action of the natural ferments of the human body. After pointing out that the German Government had prohibited the use of boric acid in the German Navy, he said not only was boric acid to be found in milk, but it was used in bacon, meat and fish, so it was not a difficult matter for a person to consume a considerable amount of the drug, although a comparatively small amount might be present in the separate articles of food. Another preservative, salicylic acid, was still more objectionable; it acted more powerfully on the digestive organs, and was said to produce chronic dyspepsia. It was used very largely in jam, and had also been found in many samples of French butter. Nearly all authorities on the subject considered it very injurious as a preservative. It had been entirely prohibited in France. After dealing with other preservatives, the speaker said another very strong objection to their use was that they were frequently added to food that was already beginning to show signs of decomposition. It was doubtful whether some of the tinned meats which they heard of being occasionally seized as unfit for food could be used at all without preservatives. Dr. Annett, of the Liverpool University College, had stated that the large increase in infant mortality, especially in large towns, was due to the use of preservatives in food. In conclusion, Mr. Lowe stated the chief objections to the use of preservatives were that they were extremely injurious to the young and weak; that they obviated extreme cleanliness in handling milk and butter; and that they enabled a good deal of unsound food to be disposed of.

It was resolved to forward a resolution to the local members of Parliament and the Minister of Agriculture to the effect that the adulteration of dairy produce with chemical preservatives other than salt and colouring matters was prejudicial to the interests and the health of the community (this only applied to milk, butter, and cheese, and not to the bottled creams sold in the shops, which were more of a luxury); and where it was deemed necessary to add a preservative, as in summer, to the bottled cream, that borax or boracic acid, as it was called, should be used, and that only in sufficient quantity to preserve the cream for a reasonable time; and that in all cases the quantity of the preservative used be correctly stated on the label attached to each bottle.

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### The Absorption of Iron by the Organism.

THE brilliant investigations of Hofmann—of which a brief description was given in the November number of the *Dietetic and Hygienic Gazette*—into the part played by iron in hematopoiesis, have conclusively established, from

the pharmacodynamic point of view, the advantage possessed by inorganic compounds of iron over organic compounds of this element. They have shown that the organic preparations are superfluous and that the employment of the hemoglobin preparations, which contain but a small proportion of iron, is not a rational one, since the therapeutic effect of the metal depends entirely upon the quantity absorbed by the system.

In a recent paper on "The Dietetics of Anemia and the Absorption of Iron," read before the Clinical Society of Maryland Hemmeter (*Maryland Medical Journal*) gives the results of his experience, which are confirmatory of the conclusions reached by Hofmann. He reviews the physiological processes concerned in the absorption of the various preparations of iron, and says that, after all, the most rational way of introducing iron into the circulation is not the administration of expensive and hypothetical mixtures of the organic forms of iron, but by securing to the economy that iron which is normally contained in the food, there being, as a rule, in every daily diet an excess over what is required for the needs of the organism. To accomplish this object the Bland pill and the chlorid of iron are at least as effective in offering themselves up to the sulphur compounds in the intestine as any of the more expensive organic iron preparations. By comparative blood counts and hemoglobin tests, this truth has impressed itself upon the writer. The only other objection to the Bland pill and the chlorid of iron has been that they did not agree so well with the stomach. As a general rule, the author's experience has been that wherever the Bland pill disagrees the much-lauded organic iron compounds disagree also, for, in these cases it is not the form of iron, *per se*, that causes the digestive distress, but the diseased condition of the stomach or the intestines.

Kobert has shown that the carbonate and citrate of iron in no way changes the amount of excretion of iron in the urine, but when hematin or hemoglobin are given, from 10 to 17 per cent. of the administered dose is found in the urine. This shows that while the organic forms may be absorbed more readily, they are also excreted much more rapidly, and, therefore, therapeutically they accomplish nothing more than the inorganic salts of iron.

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### The Movement to Make Beet Sugar in the United Kingdom.

At a meeting of the Sugar Beet Committee of the Central Chamber of Agriculture, Colonel Victor Milward in the chair, it was decided to make arrangements for a series of not less than twenty experiments in the growth of sugar beet in different parts of Great Britain and Ireland during the forthcoming season, each experimental plot to be at least one acre in extent. It is proposed that of the twenty experiments about twelve should be in England, four in Scotland, and four in Ireland. As previous experiments have demonstrated the value of sugar beet for the feeding of stock, independently of the value of the root for the manufacture of sugar, this point will be specially kept in view in connection with the proposed experiments of the present year.

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### The Dietetic Management of Heart Disease in the Young.

In a paper entitled "Heart Disease in Childhood and Youth," and published in the *Clinical Journal*, Chapman has the following to say concerning the dietetic treatment:

Indigestion in its various forms is very common in heart disease. On the other hand, pure indigestion is responsible for many symptoms which strongly simulate, or indeed are identical with, those observed in actual cardiac affections. The latter class may be explained by the nervous connection that exists between the stomach and the heart, whereby gastric irritation may be the sole cause of cardiac irregularity. The frequency of dyspeptic



symptoms in the course of heart disease is to be accounted for on other grounds. When the balance of the circulation is disturbed by valvular disease, or by any condition whereby the heart's action is interfered with, backward pressure is sooner or later exerted on the right side of the heart, which necessarily causes congestion in other viscera. It is obvious that the functions of the stomach and the liver would be interfered with by this chronic engorgement, and digestive disability remain until treatment relieved the congestion and enabled the heart to encompass its difficulties. In those happy cases where the compensation is practically completed, the patient may take ordinary food in moderation. Children are apt to take food or sweets at odd times, and this pernicious habit is sometimes encouraged by indiscreet parents. Food should be taken at regular intervals, and a rest afterward for from ten to thirty minutes must be insisted upon. The character of the food must depend upon the state of the patient at the time. It may even be necessary to depend entirely upon predigested food. No hard-and-fast rules can be drawn, but general directions may be given. Thus, anything which is liable to cause flatulence, such as farinaceous foods, the starchy parts of vegetables, salads, etc., had, as a rule, be better avoided, as also sweets and, "made" dishes.

As regards stimulants, there is still a deep-rooted prejudice in favour of the routine prescriptions of them in all cases of heart disease, even in children. As a broad rule, alcohol is not required, and when it is ordered the amount to be given each time should be specified, and the circumstances under which it is to be taken carefully laid down. In by far the majority of cases it is only in emergencies that an alcoholic stimulant is needed. A heart may be worn out prematurely by being "kept up" with spirit. For a pick-me-up milk, with the addition of a little saccharated lime-water, is generally well borne by children; at other times the white of an egg, with water and lemon-juice, will answer when milk is not tolerated. Where there is a tendency to faintness, beef tea, to which a small quantity of brandy has been added, is very efficacious. Care must, however, be taken to discriminate between real faintness and the sense of sinking felt at the epigastrium which is caused by indigestion.

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### The Chemical Nature of Enzymes.

FROM a physiological as well as from a purely chemical standpoint, says the *Medical News*, the enzymes, or ferments, form one of the most interesting groups of organic compounds. In *Science*, December 29th, 1899, O. Loew classifies them as follows:—

1. Enzymes which are intimately connected with nutrition, as diastase, pepsin, trypsin, lipase, etc.
2. Enzymes which cause oxidations—the oxidases.
3. Enzymes which bring on coagulations, the clotting enzymes: rennet, thrombase, pectase.

The first group has been known the longest and best. The practical importance of the others is increasing daily. In addition to these enzymes which act on glucosids, fats, carbohydrates, and true proteins, there are a number of others which are active in limited spheres. Certain fungi and mites attack the keratin in the hair and skin. Certain other insects and fungi attack the chitin of insects' wings. A large and important group is made up of the bacteriolytic ferments, produced by certain kinds of bacteria themselves. These enzymes play an important rôle in the recovery from immunization against infectious diseases. It is of interest to note that certain bacteria produce enzymes that later kill the bacteria. Thus the *bacillus pyocyaneus* "commits suicide by means of its own enzyme." Loew suggests three important questions with reference to these bodies. (1) Are the enzymes proteins or not? (2) How can one explain the fact that a very small amount of an enzyme can transform a relatively large amount of another compound? (3) What is the cause of their

specific action, the reason that they can only attack a specific compound and not other, even closely related ones? In answer to the first question, it seems probable that different enzymes may exist in every one of the protein groups, and some may exist that are not proteins, although derived therefrom. No satisfactory answer has yet been found for the second question. The closest analogies seem to exist between the catalytic phenomena known of certain metals. These are dependent, in the case of enzymes, on the liability or activity of chemical interchange whereby enzymes are capable of transforming heat energy into chemical energy. This chemical energy is capable of being transferred to other compounds. The answer to the third question is a much involved chemical one, depending upon molecular structure.

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### Principles of Alimentary Hygiene.

THE *Indian Medical Record*, quoting Huchard (*Journal des Practiciens*), notes that human life, which ought to last a century, has now a mean duration of thirty-five to forty years, and quite agrees with Seneca's truism "Man does not die; he kills himself" by the excessive refinements of civilization and by an unnatural alimentary regimen in which the animal food we use is not nourishment, but a continued poisoning, as proved by diminished muscular and cerebral energy next morning after a hearty dinner of all sorts of meats. Putrefaction begins the moment an animal dies or is killed, and as it proceeds more or less rapidly produces ptomaines whose toxic effects, according to Selmi, Gautier, and Brieger, are those of the most violent vegetable poisons. Acute poisoning of alimentary origin Huchard does not treat of, but calls attention to the slow continued poisoning caused by feeding on underdone or high pickled meat or by eating game whose toxic action is increased by excessive running or by fear. And he also points out that errors of diet and excessive eating tend to shorten life and give rise to a great number of diseases, such as gout, rheumatism, diabetes, kidney and stomach diseases, diseases of the heart and vessels, rickets, asthma and nervous diseases. Then while he points out that many of the strongest races never eat meat, which neither favours mental work nor generates muscular force or animal heat, Huchard does not ask humanity to live on bread and water only, but as the greatest thinkers and greatest writers have more or less employed a vegetable regimen to stop degeneration and increase muscular force and intellectual energy, he thinks alcohol in any shape retards digestion by making the ferments inert, and finds that a vegetable diet, along with milk-food, eggs, cheese not too old, and a little meat, is the most healthy form of nourishment for body and mind, while he who takes little exercise ought to eat little lest he fall a prey to apoplexy, gout, diabetes, or obesity and arteriosclerosis. Many cardiac affections and renal and hepatic conditions are the result of alimentary intoxication due to meat eating, which also produces skin diseases; whereas a vegetarian regimen, associated with moderate muscular exercise and sufficient sleep, gives a freshness and brightness to the complexion and conduces to good health, mental brilliancy, and longevity.

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### Is Distilled Water Poisonous?

It is, of course, true enough, as every physiologist knows, that pure distilled water brought in contact with pure protoplasm will cause the protoplasm to swell and perhaps burst, thus destroying it. This is due to the simple law of osmosis. The movement of fluids is toward a denser medium. It is for this reason that surgeons prefer to sponge raw surfaces with a normal salt solution (six drachms to the gallon of water) instead of ordinary distilled or boiled water. But in the use of distilled water for drinking purposes we have no trouble of this sort. No protoplasmic cells and no raw surfaces are exposed to distilled water in the stomach, though there is



always in the stomach a quantity of salts, often free hydrochloric acid, and a strong proportion of chlorids which quickly mingle with the distilled water, thus readily changing its character so as to adapt it to the surfaces with which it comes in contact. When the distilled water is absorbed into the blood, it simply dilutes the saline constituents of the blood, a dilution never extending beyond a certain point, for the reason that the kidneys stand as a protecting sentinel, ready to begin at once the rapid elimination of water as soon as excessive fluidity of the blood is threatened.

It is thus apparent that no real danger can possibly come from the use of distilled water; that, on the other hand, many actual advantages are offered. It is free from germs, free from injurious salts, from lime, and other substances with which they are found in combination, if not always of the same uniform quality. The fact that in the laboratory distilled water has been made to destroy protoplasm has no bearing at all on this question, for the conditions under which distilled water is used for drinking and culinary purposes are such as do not involve at all the conditions which exist in the case of the unprotected protoplasmic body. It is a pity that such an unscientific and misleading subject should be allowed to appear before the public.—*Good Health*.

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### The Open-Air Treatment of Phthisis.

E. H. THOMAS (*Indian Medical Record*, November 8th, 1899) in an article upon this disease and the modern methods of its treatment, says: "In their report on the open-air treatment of 183 cases of phthisis, the committee of the North London Hospital for Consumptives at Hampstead says that from January, 1899, to July, they did not close a single door or window of the "open-air ward" where these 183 cases were being treated, and the general conclusion drawn was that all the patients had benefitted considerably; 43.7 per cent. were so much improved that a large number of them showed no signs of lung trouble when they left the hospital. In 32.3 per cent. there was distinct improvement with increase of weight, diminution of fever, and marked signs of a decrease of the active mischief in the lungs. Slight general improvement with diminution of fever was noted in 7.6 per cent., while in 4.3 per cent. there were no improvement, and 3.9 per cent. died."

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### Tuberculosis as it Exists To-day.

THAT the subject of tuberculosis is the paramount subject in the minds of the members of the medical profession to-day, says the editor of the *Mod. Med.*, is evidenced by the large gatherings of medical men in various parts of the world to discuss methods for the prevention and cure of this great plague which carries off more than one seventh of all who die. The extent to which tuberculosis has gained a foothold on the human family makes it imperative that prompt measures be adopted to eliminate the disease. The number of deaths occurring from tuberculosis in various parts of Europe can be seen from the following list, which represents the proportion of deaths from tuberculosis in every 10,000 mortality: Russia, 3986; Austria, 3625; Hungary, 3184; France, 3023; Sweden, 2310; German Empire, 2245; Switzerland, 2031; Ireland, 2029; Denmark, 1912; Netherlands, 1884; Italy, 1871; Belgium, 1767; Norway, 1737; Scotland, 1727; England, 1357; making a total of 34,688 deaths from tuberculosis out of a total of 150,000 deaths from all causes. In other words, about one-fourth of the deaths occurring in Europe are due to tuberculosis. In this country one-seventh of all deaths are due to tuberculosis.

One of the great problems to be solved in order that this great mortality may be markedly reduced is to ascertain the means of infection. It is a well-known fact that infection may and does take place through the skin, lungs and digestive tract. The eminent pathologist,

Virchow, states that the disease is not inherited. One fact which has been settled on by the various Congresses which have convened for the purpose of studying the cause and prevention of tuberculosis is that in the domestic animals used for food lies one of the most dangerous sources of tuberculous infection. Recent investigations carried on with the tuberculin test have shown that cows and pigs are extensively affected with tuberculosis. It has also been demonstrated that animals fed on milk from tuberculous cows contract the disease.

We are glad to note that such active measures are being adopted to eradicate the disease from food-supplying animals, and also that so many sanitariums are being established for the treatment of those suffering from this malady.

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### Is Consumption of Vegetable Origin?

THERE are certain bacilli that cause in the human body symptoms similar to those of tuberculosis. To this group, called by Koch pseudo-bacilli, a new member has just been added, as we are told by *La Médecine Moderne* (*Literary Digest*). It was discovered by M. Moeller on a kind of grass that grows abundantly in certain parts of France. Says the writer of this notice: "In studying this grass, M. Moeller discovered a bacillus that has points of resemblance with the Koch bacillus even more striking than those of the other pseudo-bacilli of tuberculosis. The resemblance is even so strong that we may ask in what respect the false bacillus differs from the true. After describing numerous experiments which show that the action of this vegetable parasite is practically the same as that of the real tubercle bacillus, the writer suggests, following the lead of Rabinovitch, a Russian investigator, that it is nothing less than the tubercle bacillus itself, modified by environment. He says: 'This would be an interesting point to elucidate. Up to the present time vegetables have not been suspected of harbouring parasites of the tubercle family. It is possible that grasses may give refuge to a variety of the Koch bacillus, living on their stems as saprophytes, and capable, by passage into the stomachs of cattle, of acquiring virulent activity as the bacillus of human tuberculosis? We know that another parasite, that of actinomycosis, has been found on the beard of wheat. The hypothesis of a similar habitat for the tubercle bacillus has nothing improbable in it' M. Moeller has also observed in cow dung a microbe which, while non-tuberculous, is a pseudo-bacillus like those of Koch. It is reasonable to suppose that this came from the grass on which cows fed. 'Is it possible,' asks the writer in conclusion, 'that we are on the way to discover a vegetable origin for tuberculosis?'"—*Medical Times*.

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### Diet in Typhoid Fever.

MUCH has been written, both pro and con, in reference to this or that article of diet in the management of typhoid fever. It is a settled fact that the food must be fluid, highly nutritious, and easy of digestion, for the maintenance of nutrition is imperative in this wasting disease. Milk is probably the most extensively used and will form the main article of diet so long as fever lasts. I have used milk in nearly all its various forms in the care of my cases, from frozen or boiled sweet milk to buttermilk, from sweet milk, milk with limewater, to that partially digested with pepsin or pancreatin when digestion was enfeebled. The tendency in milk diet is to overfeed by forcing too large quantities at one feeding and thereby cause a disgust for that diet upon which we have pinned our faith. If one insists upon an absolute milk diet, not infrequently will you find your patient has gone without it rather than take it. They fret under its administration, digestion is interfered with, curds swarming with bacteria of decomposition are found in the increased diarrheal discharges, plus the bacteria of typhoid fever already existing, hence the object which we wish to attain so far as it is possible (that of rendering the gastro-



intestinal tract aseptic), is defeated from the outset by error in diet. I have often been puzzled as to what to substitute for milk in this class of cases until the stomach became more tolerant. I have tried various farinaceous substances and discarded them on account of the increase of flatulency they almost invariably produced.

For some time past I have tided my patients over their critical period by tablespoonful doses of liquid peptonoids every two hours, giving nothing else in the way of nourishment but the above remedy. I cannot speak too highly of this elegant preparation where digestion is below par, as a highly nutritious food that will not curdle upon the stomach, or leave a residue in the intestinal tract. It is a slightly stimulating food, consequently your cases as a rule will require alcohol stimulants—a great desideratum in some cases. I do frequently carry through my cases of typhoid successfully, where no other article of diet is given from the time I make the diagnosis until convalescence is firmly established and I call the attention of the profession to it for that class of cases in which milk cannot be taken.—*Southern Californian Practitioner*.

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### Jamaica Ginger.

RATOON ginger is gathered in Jamaica from March to December, but planted ginger is not ready for digging until December or January, and from then until March is the "ginger-season." Ginger is known to be ready for harvest when the stalk withers. This begins shortly after the bloom departs. The rhizomes are twisted out of the ground with a fork. In this operation every bruise or injury to the hands is detrimental to the market value. There is quite a knack in doing this, and it takes long practice to become expert.

The hands are thrown in heaps, the fibrous roots are broken off and the soil and adherent matter removed. This must be done quickly after removal from the earth, for, should the ginger be dried with the soil and roots still adhering, the product would not be white, and if it lies in heaps before drying it would mould. The custom is to throw it immediately into a dish of water; it is then ready for the uncoating or peeling operation. This is done by hand. A planter who has any quantity of it on hand will make a "peeling match" by gathering his own numerous family, and whatever his neighbours can afford. The ginger season thus becomes a time of merry-making.

Ginger peeling is an art, and there are many expert peelers in Jamaica. The ginger knife is simply a narrow-edged blade riveted to a handle. In large operations an expert peels between the fingers of the hand, less experienced hands peeling the other portions. Examination of the transverse section of ginger will show the importance of the operation. There is an outer striated skin under which there are numerous layers of very thin-walled cork cells. This layer contains numerous oil cells, the oil cells being most numerous at the bud points. The oil contained in these cells in specimens fresh from the ground, is almost colourless, very pungent, and exceedingly aromatic.

It becomes yellow very quickly on exposure to the air, and, even when drying without removing the epidermis, its delicate aroma is found to be fleeting. On drying the ginger the contents of these cells appear as a yellow, pitchy mass. (It has been stated that this colouring matter is identical with that of curcuma.) As this cork layer is the seat of the greatest amount of oil and resin cells, it will readily be seen that the deeper the peeling so much the more of these substances will be carried away with the epidermis, and more cells opened from which these principles may exude.

As fast as peeled, the roots are thrown into water and washed. The purer the water and the more freely it is used, the whiter will be the product. Generally a very little water washes a great deal of ginger. The hands are peeled during the day, and allowed to remain in the water

over night. This water acquires a slimy feeling, and, if concentrated, becomes mucilaginous and acquires a warm and aromatic taste.—*N. Y. Commercial*.

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### The Use of Alcohol in War.

THE "kaffirgram" from Ladysmith announcing that whisky was selling at 25 dol. a bottle was not only an indication of the low supply of certain luxuries in the besieged city, says the *Med. Age*, but was an assurance that alcohol is occupying a very different place in the rations of war to what it did years ago. That it had reached this price when necessary provisions were fairly plentiful indicated that it had not been provided in large quantities.

The waning estimation of the value of alcohol for general purposes is perhaps nowhere more admirably exemplified than in the records of the British army. In old days, when it was the fashion of our forefathers to drink to excess, the same practice prevailed in the services, and in the army, and navy grog was an indispensable and permanent ration. A very different place is now assigned to alcohol in the conduct of modern warfare. No longer is "Dutch courage" the kind of courage thought desirable to attain. The modern general knows that hardships can be best borne and dangerous climates best encountered without the constant use of stimulants. This conviction has long been gaining ground. Even in the Indian mutiny Havelock's men performed the greatest feats of endurance on coffee alone as a beverage. To General Wolseley, the present Commander-in-Chief, may perhaps be particularly attributed the growing condemnation of the spirit ration. In the Red River expedition of 1870 Wolseley first discontinued the spirit ration, and it is recorded that no troops enjoyed better health than those engaged. The rum ration was discontinued in the Ashantee war 1873, and was again prohibited in the Kaffir war of 1877-78. In the Soudan expedition all alcoholic liquors were prohibited, and the men engaged achieved fine physical condition, as regards health and endurance.

The needlessness of alcohol in every-day life is admirably illustrated by military experience, and there is little doubt that stimulants will never again be found in army equipment except for administration under medical control.

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### Dry Heat of High Degree as Therapeutic Agent.

C. E. SKINNER (*New York Medical Journal*, December 9th, 1899), in an article on hot air as a therapeutic agent, says that hot air is a pain-relieving agent of unequalled value in those conditions where its application is indicated and possible, because of its very constant effectiveness, rapidity of action, and the absolute absence of deleterious after effects. In rheumatism, at least, its action is so profound in connection with judiciously chosen drugs that it may almost claim a positive curative power of its own, and may certainly be said to be the most powerful contributing agent we know of. Many cases cannot be cured by drugs without it, and in any case the victory over the ailment is much hastened and the victim maintained in comfort during the attack. On the other hand we must remember that it appears to be rarely if ever capable of overcoming the disease without the aid of drugs. It is capable of drugs. It is capable of stimulating tissue repair to a remarkable degree, as is demonstrated by its effect upon sprains and intractable verrucose ulcers. It is capable of influencing most happily septic inflammations of serous membranes, as shown by its action in peritonitis and pleurisy. It will many times at least give us the power of economizing nervous energy by relieving pain and other more or less dangerous conditions in pneumonia, thereby enabling us to refrain from sedatives and cardiac stimulation, and the nervous energy we may thus save for the patient will sometimes be sufficient to tide him over a crisis by which he would otherwise be overwhelmed.—*Med. Age*.



## Cold Storage Notes.

### Cold Storage for Fruit.

BULLETIN No. 84, April, 1899, of the Kansas Station (Manhattan, Kansas) is devoted to the keeping of fruit by means of cold storage, and has been prepared by Professors Faville and Hall. It is well worth the attention of all who raise fruit for market, or even for home use. We copy the "Conclusions" arrived at, from the last page of the pamphlet:—

1. Cold storage, if properly conducted, is practicable and profitable for the fruit grower.
2. When fruit is grown for home use, or the local market, home cold storage is advisable.
3. City cold storage is preferable for large quantities of fruit that are to be placed on the open market.
4. For small fruits, grapes, plums, peaches, in fact all juicy summer fruits, cold storage is applicable only in holding them for a few days or weeks to carry them over a glut in the market.
5. Pears and apples may be safely held in cold storage for several months if properly treated.
6. For good results in keeping fruit of any kind, it must be rather under-ripe, and perfectly sound when placed in storage.
7. The utmost care is essential in picking, packing, and shipping, in order that the fruit may arrive at the warehouse in sound condition.

8. Cold storage demands fruit of the highest quality and necessitates especial care in the selection of stock and in the treatment of the orchard.

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### Partridges from Siberia.

IN these days of cold stores there is no saying what fresh delicacies may not be added to the table of the average Londoner who desires to titillate his palate with something new. The latest addition to the larder is the Siberian partridge, 180,000 brace of which recently arrived in the Millwall Dock per the steamship "China." The shipper is Mr. H. Baerselman, of 15, Eastcheap, to whom the merit of discovering a new delicacy is due. The Siberian partridge is shot in the mountains lying to the south-east of Omsk, in Western Siberia, but Manchuria is said to be their original home. The food of the Siberian partridge consists of wild nuts, which imparts a very sweet flavour to the flesh of the bird. The birds are shot under climatic conditions which ensure speedy freezing soon after death, and in that condition they are packed and forwarded by rail to Libau, in the Baltic, whence they are shipped to London. On removal from the docks the consignment is sent to Mr. Baerselman's stores at the New Star Wharf, Shadwell, and the birds are retailed at from 2s. to 2s. 6d. a brace at Smithfield and Leadenhall Markets.

## Official Reports and Notes.

### The Supervision of Weights and Measures in Manchester.

THE inspectors under the Weights and Measures Department of the Manchester Corporation have made 14,811 visits of inspection during the year, involving the examination of 187,856 weights, measures, and weighing instruments. Of these 18,570 weights required adjusting and repairing, and 236 were seized; 1,203 measures required adjusting and two were seized. Only 17 persons were prosecuted, but 308 persons were reported for offences against the regulations.

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### Food Inspection in Manchester.

A REPORT which has been prepared by the Markets Committee of the Corporation for presentation to the City Council, shows how great was the amount of meat, fish, and fruit condemned and destroyed as unfit for human food during the year 1899. Under the head of meat and fish no less than 177,822 lb. had to be destroyed and of fish no less than 147,996 lb. Game and poultry were also condemned in fairly large quantities, as many as 1,943 ptarmigans, 7,076 rabbits, 121 hares, 168 rooks, and 1,999 chickens being confiscated. As regards fruit the largest quantities condemned were black currants, 200 baskets; strawberries, 103 baskets; and blackberries, 43 baskets. With the exception of 11,972 lb. of meat, 709 lb. of fish, 35 rabbits, and 37 head of poultry, which were seized while deposited or exposed for the purpose of sale, all the meat, fruit, &c., condemned was surrendered by the trade after being pronounced unsaleable by the inspectors. The game, poultry, and rabbits were condemned principally in the wholesale and retail fish and poultry markets

and the cold air stores; the fruit and vegetables in the Smithfield Market and on hawkers' carts. Eleven seizures of unwholesome food have been made in shops in the poorer districts of the city, four being on Sundays. In addition to the inspection of the abattoirs and markets 3,402 visits have been made to the private slaughter houses (250 being at the request of the butchers), and and 9,044 carcasses examined, 14 carcasses and portions of 45 others being condemned as unfit for human food.

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### The Sale of Food and Drugs Act in Aberdeen County. Curious Complication.

A MEETING of the Aberdeen County Council Committee appointed to administer the Sale of Food and Drugs Acts in the county was held in Aberdeen. The county clerk (Mr. William Murison) submitted and read a correspondence which had passed between himself and the Local Government Board regarding the question of the administration of the Acts (Sale of Food and Drugs) in police burghs. It seems that the Local Government Board issued a circular setting forth that in police burghs the administration of the Acts would be in the hands of the Commissioners of these burghs, who would have to appoint their own analysts, etc. The county clerk pointed out to the Local Government Board that in his opinion their interpretation of the statute was a mistaken one, and supported his contention by referring the Board to the fact that the cost of administering the Acts was provided for by the County General Assessment, that the commissioners of police burghs had no corresponding provision for the cost of administration, and in the event of the latter being obliged to administer the Acts themselves a



double burden would be laid upon them, for they would still be obliged to pay their share of the County General Assessment and therefore of the cost of administering the Acts in the county. The committee resolved yesterday to report the correspondence to the County Council, and to recommend that an agreement should be come to between the County Council and the Police Burghs for the administration of the Acts by the County Local Authority.

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### Weights and Measures Conference to meet in Bradford.

ARRANGEMENTS are being made to hold the spring general meeting of the Incorporated Society of Weights and Measures Inspectors in Bradford on an early date in April.

Some fifty members will be present at the Conference from all parts of England, Scotland, and Ireland. Last year the Conference was held at Reading. The arrangements are in hands of Councillors Wesley Knight and Harry Gray, who will at an early date meet the President of the Society with a view to making preliminary arrangements for the Conference.

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### Leicester and the Inspector of Weights and Measures.

MR. MINNS, the inspector of weights and measures has made an application for an increase of salary. Mr. Minns was appointed by the council on the 29th March, 1898, and has given entire satisfaction to the Committee in the performance of his duties, the energy with which he had done so being shown by the fact that the fees received since his appointment (1 year and 10 months) has been £376 5s. 6d., as against £93 19s. 8d. for the two immediately preceding years. The Markets' Committee have recommended that the salary of Mr. Minns, as inspector of weights and measures, be increased from £110 to £140 per annum. Mr. Minns receives from the Watch Committee a salary of £20 per annum as Inspector of petroleum and explosives.

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### Sanitary Inspectors' Grievances.

THE point in Mr. P. Thornton's Public Health Bill seems a very reasonable one, says the *Pharmaceutical Journal*, in fact, it simply illustrates another phase of the unqualified control question. The duties of a sanitary inspector practising under the official aegis of the Local Government Board are varied, responsible, and important, ranging from curing smoky factory chimneys to prosecuting hucksters for dealing in sophisticated drugs or putrid table delicacies. He is the mainspring of the administrative machinery of the Food and Drugs Acts, the Margarine, Horseflesh, and a number of similar statutes having for their object the conservation of the national health; and it seems necessary, therefore, that he should be possessed of certain Chrichton-like faculties and attainments. As a matter of fact, sanitary inspectors are required, under the Public Health Act of 1891 (applicable only to the Metropolis), to have certain qualifications of a fairly high standard; yet they are subject to the control of parochial authorities constituted of men who may have very excellent grounds for not being able to appreciate activity in an inspector. Outside London the position is rather worse. Local authorities are largely composed of builders, owners of speculative house property, shopkeepers, or manufacturers, and they have absolute power to dismiss or to decline to appoint a good man—in fact, they may bluff the public by filling up the appointment with a complacent or an incompetent individual who may be trusted not to interfere unduly with vested—i.e., local—interests. Mr. Thornton's plan for improving this condition of affairs is to make the provisions of the London Act of 1891 respecting the qualification, appointment, duties, salary, and

tenure of office of district medical officers, applicable to sanitary inspectors all over England and Wales. Thus it would become impossible for a sanitary inspector to be removed from office by an Urban Sanitary Authority without the consent of the Local Government Board. Scotland and Ireland are already provided with safeguards in this direction, but up to the present anything has been deemed good enough for England and Wales. It is not at all a certainty that the reform is in sight now, for Mr. Thornton is only a private member, and the legislative efforts of private members are not proverbially crowned with success.

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### The City of Hereford and the Adulteration Acts.

MR. S. PROTHEROE, Inspector under the Food and Drugs Act, Hereford City, reports:—

Under the provisions of the above Acts 65 samples have been purchased for the purpose of analysis, 19 by Detective Constable Ovens, and 46 by myself. The following shows the nature of the articles purchased:—milk 21, butter 13, lard 3, coffee 4, Demerara sugar 2, pepper 1, mustard 1, cider 8, perry 2, whisky 6, brandy 2, gin 1, rum 1.

The extent of adulteration during 1899 was as follows:—Coffee, one sample contained 19 per cent. of chicory; Demerara Sugar, two samples consisted of dyed sugar crystals and not Demerara sugar; Whisky, one sample was 39 degrees under proof. One sample was 40·6 degrees under proof; Brandy, one sample was 44·27 degrees under proof.

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### The Competency of Public Analysts.

THE Local Government Board have issued a circular drawing attention to the provisions of subsections (1) and (5) of section 3 of the Sale of Food and Drugs Act, 1899 (62 and 63 Vict., c. 51). The former subsection provides that it shall be the duty of every local authority entrusted with the execution of the laws related to the sale of food and drugs to appoint a public analyst, and the latter that any public analyst appointed under the Sale of Food and Drugs Acts shall furnish such proof competency as may from time to time be required by regulation framed by the Board. The Board have issued an order prescribing the regulation which they have framed under the above enactment. The regulation requires that every person appointed on or after January 1st, 1900, to the office of public analyst shall furnish such proofs as the Board may deem sufficient of his competent skill in and knowledge of (a) analytical chemistry; (b) therapeutics; and (c) microscopy; and the order proceeds to indicate the nature of the documentary evidence to be comprised in such proof. Such evidence of competency is to be furnished by the public analyst to the local authority by whom he is appointed; and it is to be transmitted to the Board by that authority when applying for the Board's approval of the appointment. In the case, however, of any person who was appointed to the office of public analyst with the approval of the Board between January 1st, 1891, and the date of the order, or who is appointed to that office for the first time after the last-mentioned date, the regulation will not apply in the event of his subsequent appointment as public analyst.

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### The Salvation Army and Carter's Little Liver Pills.

IN an Illinois town a salvation army advertiser lettered a billboard thus: "What shall I do to be saved?" A patent medicine advertising man came along the next day and stenciled underneath: "Take Carter's Little Liver Pills." Shortly afterward the Salvation Army man noticed the sacrilegious work of the medicine man and printed below: "And prepare to meet thy God."



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—At the Sessions House, Boston, on March 7th, Thomas Rhodes, milk dealer, Kirton, was summoned for selling, to the prejudice of John Wailis Smith, the purchaser, milk which contained 28 per cent. of extraneous water, and 72 per cent. of milk of genuine composition, but of the poorest quality in non-fatty solids at Kirton, on February 1st, contrary to Section 6 of Food and Drugs Act, 1875.—Mr. Snaith defended.—P.C. Smith, stationed at Kirton, said on Thursday, February 1st, at 7 p.m., he visited the defendant's premises and purchased a quart of new milk from his wife, who was then in the act of supplying Mrs. Fossitt, a wholesale customer. Witness paid 2d. for the quart of milk, the wholesale price, and the same as Mrs. Fossitt paid. The retail price was 1½d. a pint. On receiving the milk, witness stated that it was for analysis. The report of the County Analyst was put in. It bore out the statement in the summons, and continued: "The said sample contained 6·12 per cent. of non-fatty solids. Milk of genuine composition, but of the poorest quality in non-fatty solids, contains 8·5 per cent. of non-fatty solids, and the opinion as to the percentage of extraneous water is based upon these facts in the present case."—Mr. Snaith said he could not resist the evidence. He was only instructed that morning, and must submit to a conviction. But he pointed out that this was defendant's first offence, and said it was to be hoped the water was added to the milk without his knowledge.—The Chairman: That would be no defence.—Mr. Snaith said it certainly should not occur again. The mere fact of milk being of poor quality, he reminded the Bench, was not an element of the offence. There must, he thought, have been something exceptional about the milk on the day the sample was taken.—Supt. Costar said he could not agree with Mr. Snaith that this was the only occasion on which the defendant had sold adulterated milk. He was in a position to show that the defendant had supplied it to Mrs. Fossitt, a widow woman of Kirton, who retailed the milk since last October.—Mr. Snaith: Has there been a previous conviction?—Supt. Costar said the defendant began to supply Mrs. Fossitt about the end of October, last year, and he supplied her down to the 3rd February, this year, two days after the sample was taken. Her book showed that he supplied her with 467 gallons 2 quarts, at 1d. per pint, which amounted to £15 11s. 8d. During the whole of that time the milk had been adulterated more or less, sometimes to the extent of 30 per cent., so that she had actually paid him £4 7s. 3d. for water alone during that period. After this sample was purchased, on February 2nd, she received 16 pints and 8 pints were water. On February 3rd, she had 17 pints, 9 of which were water. She had been retailing the milk.—Mr. Upsall: With the knowledge of this?—Supt. Costar: I don't know. She will tell you what she did with it. A sample of milk was taken from her the same evening, and was found to be genuine. She has had milk of her own, but has had some from the defendant to make up the supply to customers. I would remind the Bench that the full penalty is £20, and would ask for a £15 penalty, because this is a most serious offence.—The Chairman (Mr. T. C. T. Moore): The amount of the penalty rests entirely with the Bench.—Mr. Gleed: You have had the milk analysed?—Supt. Costar: Yes, sir.—Mr. Snaith: By the Public Analyst?—Supt. Costar: No.—Mr. Snaith: I would point out that there has been no proof given of mere assertions, and that there has been no analysis of this milk by the Public Analyst.—The Chairman: We are bound by the analyst's report of the sample submitted to him.—Mr. Snaith: Yes, as to this case, but not as to antecedent cases. Mrs. Fossitt, widow, of Kirton, said she commenced to take milk from the defendant on October 26th last. The book produced was hers, and in it she entered the quantities of milk she received from defendant. She analysed the milk herself every morning, and the book showed the result. She also got a gentleman at Boston to analyse a sample. She used to put the milk in glasses and the water sank to the bottom.—Mr. Dyer: Did you complain to the defendant about it?—Witness: I complained to him that the milk would not keep, and he said he was going to buy another cow. But when you found this milk was full of water didn't you go to him and say, "You're not selling me milk at all, but water?"—No; he could have punished me.—Mr. Dyer: I don't think so at all.—Witness: I had nothing to show. You say you had analysed the milk?—Yes, and I sent it to Mr. Stephenson to have it analysed, and then I gave it to the police. But when you found he was selling you half water, why didn't you go to him and say so?—He could have punished me. There was one case, and a gentleman afterwards said if he had known he should have punished me severely, as I had not any proof.—Mr. Upsall: The reason you didn't complain was because you were in fear?—Witness: Yes, I was.—The Chairman: You were not in fear of the law?—Witness: I was afraid he would punish me. You sold the milk to others?—No, not a drop.—Mr. Dyer: What did you buy it for? What

did you do with it?—Witness: I didn't want him to start and hawk against me. What did you do with all the milk—and water—you brought?—I gave it to the pigs and never sold any.—Mr. Gleed: Had you a contract with him?—Witness: No. I always went night and morning and paid him ready money.—Supt. Costar: Some time previous to the 1st February, did you complain to him, through P.C. Smith, about this?—Witness: Yes. And you received a reply from me?—Yes, that you were ill, but would come.—Supt. Costar: Otherwise I should have taken action before. Mr. Upsall: Are you trying to lead the Bench to believe that you had taken milk from this man since October which had been no use?—Witness: No; I had taken it all that time, but didn't know it was part water. It was November 28th when I first ascertained it was part water. I put it in the police's hands then. By Mr. Snaith: The book produced is in my own handwriting. Was it written all at one time?—No; I didn't get the milk all at one time. (Laughter.)—Mr. Snaith (examining the entries): They look uncommonly alike.—Witness: Well, the same handwriting is likely to be. (Laughter.) In reply to Mr. Dyer, witness explained that "4 pints W" and "16 pints W," placed opposite entries on different dates, indicated so many pints of water.—Mr. Dyer: I see you have one entry "19 pints water," written in full. That is pretty strong? (Laughter.)—The Chairman: "W" does not mean warranted? (Laughter.)—Witness: Oh, no. I gave it to the pigs. (Laughter.)—Mr. Snaith: Then it has not been sold to the prejudice of human beings? It has not been for human consumption? The Chairman: I should say to the prejudice of the pigs. (Laughter.)—Supt. Costar: She began to analyse it in her own way on October 28th, and not feeling satisfied sent a sample to Mr. Stephenson, of Boston. His analysis corroborated her own, and she communicated with me, but I was not at that time in a position to take a sample, and advised her to keep on with it.—Mr. Lane-Clayton: Then do we understand she acted under your advice?—Supt. Costar: Yes, sir.—The Bench retired to consider their decision, and on their return the Chairman said: Thomas Rhodes, acting on the advice of your solicitor you have admitted this offence. A more serious case I don't think was ever heard in this Court—selling milk diluted or adulterated with water to the extent of 28 per cent. Milk is the staple food of infant life. Without milk children grow up rickety. Invalids and sick people to a very great extent are dependent upon milk and milk food for their very existence. You enrich yourself by mere half-pence, I hope without any intention of defrauding the public, although you have defrauded them. You have put a few half-pence a week into your pocket, at a very serious loss to the public, and great danger to the lives of infants, old people, and invalids. I can see nothing at all to justify in any way your serious offence. The law has very properly provided for it the heavy penalty of £20. I don't know that we are doing right to the public in abating that penalty one farthing. We see you are described as a cottager, and take that into consideration; but whether you are a cottager with cows, or a large milk-dealer with horses and cattle, should not enter into our consideration at all. The very lowest penalty we can put upon you to-day is a fine of £10 and costs.—Defendant: How long shall you give me to pay it in?—Supt. Costar: He is an occupier of 20 acres of land.—Defendant: No, it's false! The Chairman: You may remove him. There must be order in the Court of Justice.—Defendant was removed, but later, on the application of Mr. Snaith, he was allowed to pay £7 10s. down and the balance in a week.

Edward Wallace, milk-seller, Skirbeck, was summoned for selling milk, 84 per cent. of which was devoid of fat, and 86 per cent. milk of genuine composition but of the poorest quality in fat, at Skirbeck on February 1st. Sergt. Theaker stated that on the date in question he purchased a quart of new milk from the defendant for which he paid 3d., at the same time informing him that it would be analysed. Supt. Costar produced the report of the Public Analyst, which bore out the statement in the summons, and continued: "The said sample had a composition of milk from which 14 per cent. of the original fat had been abstracted, such milk being originally of the poorest quality in fat. The said sample contained 2·58 per cent. of fat." Supt. Costar said he had taken samples from the defendant before, and they were genuine. He had the last sample from him about a year ago. Defendant: I am buying 8½ gallons a day. I keep one cow. I paid 8½d. a gallon for this milk, and have a warranty for it. In reply to the Bench, defendant said he sold the milk in the condition he bought it. He mentioned the names of families he had served with milk for years without a complaint. The Chairman: If you buy milk with a warranty you have your remedy against the seller. Defendant said he had no tester. Mr. Dyer: Then you had better get on, and also proceed against the people for selling you skim milk instead of genuine. The Chairman said the defendant had his remedy against those he obtained the milk from, but he had committed an offence as the seller of it. It might be hard on the defendant, but to mark their sense of the case the least they could do was to fine him £5 and costs. Supt. Costar: If he had told me at the time I got the sample, I should immediately have taken a sample from the other place. Defendant was allowed a month for payment.



At Bedlington Petty Sessions, Jacob Tweedy, milk carrier, Bedlington, was charged with selling to Sergeant Tough, at Bedlington, on January 25th, milk containing 8.5 per cent. of added water. Sergeant Tough stated that on the date mentioned he went to Bedlington Station for the purpose of taking samples. He saw the defendant's daughter with a milk cart. On going up to her he asked to be supplied with a quart of milk, and paid 3d. for it. He divided it into three parts, and gave one part to the defendant's daughter, kept one for himself, and sent the other to the analyst. The certificate returned showed that there was 8.5 per cent. of added water. The girl told him that the milk was not their own, but that they had bought it from someone else. Defendant said that was so. He kept cows himself, but had had to purchase some milk from another farm. He did not get a written guarantee with it. The Chairman said the Bench considered the case a bad one. It was a serious thing for poor people and rich as well, who had to bring up their children upon milk, and it was for the Court to protect them. They had taken into consideration that defendant only kept four cows, and would fine him £2 and 19s. costs. If he had been in a larger way of business the penalty would have been much heavier.

At Bishop Auckland Petty Sessions, Elizabeth Ann Gates, of Witton Park, was charged with selling a pint of new milk deficient in fat to the extent of 18 per cent. Mr. William Wilkinson, who defended, took a technical objection to a technical objection to the summons, inasmuch as under the Act of last year there must be served a copy of the analyst's certificate obtained on behalf of the prosecutor at the same time as the service of the summons. The summons was accordingly dismissed.

At Rugeley Petty Sessions, on March 5th, some important prosecutions, instituted by the Staffordshire County Council under the Sale of Food and Drugs Acts, were heard against farmers of the district for selling adulterated milk and supplying false warranties to their customers. The magistrates upon the bench were Sir Chas. Forster, Bart. (chairman), F. Bonney, J. Darling, and C. Lees, Esqrs. The defendants were John Tomlinson, Abbots Bromley; George Hudson, Stoney Ford, Yoxall; and Arthur Cheate and Thomas Cooper Averill, King's Bromley. They were charged respectively with selling milk adulterated with added water to the extent of 6, 17, 22, and 45 per cent., and with having given to the Edwards Creameries (Limited), London, false warranties to the effect that their churns contained "pure milk, guaranteed to contain the whole of its cream and without any rinsings whatever." Mr. R. A. Willcock, of Wolverhampton (instructed by Mr. Harold Von Tromp, inspector of South Staffordshire) appeared for the prosecution, and the defendant Averill was represented by Mr. W. Armishaw, of Rugeley. Mr. Willcock said he appeared on behalf of the county authorities to conduct these prosecutions and that the cases were exceedingly important as regarded the administration of the Food and Drugs Acts. The proceedings were taken under the Foods and Drugs Acts of 38 and 39 Vic., ch. 63, and 42 and 43 Vic., ch. 30, with the amending Act of 62 and 63 Vic., ch. 51, which came in operation at the beginning of the present year. It should be known that larger powers had been conferred upon the inspectors and further penalties framed with the view not only of protecting the public but retail traders, and that offenders were now liable, on summary conviction, to a penalty not exceeding £20 for a first offence, £50 for a second offence, and £100 for subsequent offence. Hitherto it had been found exceedingly difficult to trace the adulteration and get at the first offender, with the result that retail traders had been prosecuted and punished for what had really been beyond their control. With the enlarged powers now conferred by the Legislature, it was hoped to trace the original adulteration to its source and protect retail traders from harassing prosecutions, which were calculated undeservedly to ruin their business reputations. Formal evidence was then given, and the same method of detection appears to have been adopted in each case. The Edwards Creameries Limited maintain receiving factories at Blithbury and King's Bromley, from whence they forward their milk to their distributing establishments in London. On January 11th, Samuel Toy, assistant inspector, attended at the Blithbury Factory at 8.30 a.m., when the various consignments of milk were being received from the surrounding farmers, and took samples from one of the churns sent by Mr. Tomlinson. The following morning, about nine o'clock, he attended at the King's Bromley Factory and took samples from the churns forwarded by the other three defendants. The churns bore the names of the several defendants, and with each the driver delivered to the manager signed labels, which it was alleged constituted the false warranties. The assistant-inspector divided the samples into three in the usual way, placed them in sealed and numbered bottles, gave one to each of the drivers, and passed the others on to the Chief Inspector and the County Analyst. Mr. Charles Foskett, local manager for Edwards Creameries (Limited), said the defendants were under contracts to supply pure milk, and provided the receipt of the labels testifying that the contents of the churns were "pure milk, warranted to contain the whole of its cream, and without any rinsings whatever." He also stated that complaints had been made to most of the defendants as to the quality of the milk they had delivered at some time or other, and Mr. Van Tromp said it was in consequence of representations as to the milk being adulterated that the prosecutions had been instituted. Mr. E. W. T. Jones, the county

analyst, produced the analyses he had made of the samples submitted to him, and said that of Averill was one of the worst he had ever known, being as nearly as possible one-half water. In the case of Cheate one gallon of water had been added to five gallons of milk, and in the case of Hudson one gallon of water to six gallons of milk. The analysis in the case of Tomlinson was—solids not fats, 7.94; fat, 3.11; and water, 88.95. In making the analyses he took the standard of 8.5 solids not fat which was adopted by the referees at the Government Laboratory, and which was a very low standard. There was at the present time no general fixed standard for milk, and the standard he had taken allowed in 70 per cent. of the samples submitted to him of 4 or 5 per cent. of added water. He had never known pure milk fall below such a standard, and did not believe it to be possible. Mr. Tomlinson said he was told that he must keep the sample given to him for three weeks, and if he heard nothing within that period he could then make away with it. He followed that advice, and when he had destroyed his sample the proceedings were taken. As he had done nothing to the milk he should have liked to have had his own sample analysed. As far as he could make out, the sample was taken on January 11th, and the analysis made on January 20th, and no information was given to him until he got the summons. Mr. Willcock said the authorities were bound to take proceedings within a certain time, and that they were taken well within the time. In reply to the Bench, Mr. Jones said all samples of milk were attended to at once by him, and that there was no possibility of them deteriorating from delay. He received the samples in these cases from Mr. Van Tromp on January 13th, and made his analyses the same day. On his certificate he stated that no change had taken place in the samples. Mr. Tomlinson said he milked the cows, put the milk in the churns himself, and sent it away himself, so that nobody could interfere. Mr. Jones said he made two analyses of most samples that were found to be adulterated in order to avoid any possibility of mistake. Mr. Hudson said he was a very old man, and old as he was he had never been summoned before. He trusted the Bench would be as lenient as they could with him. Mr. Arthur Cheate said he was ill in bed at the time and could say nothing about it, but his man had told him he did not in any way interfere with the milk. Mr. Armishaw, for Mr. T. C. Averill, elicited from Mr. Toy that he had not paid for the samples of milk he had taken, and raised the point as to the validity of the summons, urging that there had been no sale to the prejudice of the purchaser. Mr. Willcock said that point had been settled by a decision of the High Court in the case of "Crouch v. Hall," and that inspectors were empowered to take milk in transit. The milk in this case was nearly half water, and he asked the Bench to mark their sense of such a gross case by a heavy penalty. In reply to Mr. Armishaw, the analyst said he made an analysis of milk for Mr. Averill on September 28th, 1899, and certified it to be very good milk. The present was a similar quality of milk, with nearly half of added water. Mr. Armishaw said his client did not wish to attempt to justify the sale of milk with 45 per cent. of added water, but that, in consequence of complaints, he sent a sample to Mr. Jones for analysis last September, and had ever since been exercising care to prevent any adulteration of the milk. Mr. Averill gave evidence on his own behalf, stating that his cows were milked by an old man named Robert Saunders on another farm about half a mile from his house, and the milk was left outside a yard close to a garden wall, to be called for by a man who collected milk for several of the farmers of the neighbourhood. He could not say who put water to his milk, but he denied that it was adulterated by either himself or his man. In cross-examination by Mr. Willcock, the defendant said he could not suggest who adulterated the milk, or who was likely to benefit from adding water but himself. In September last Messrs. Edwards complained of his milk being adulterated to the extent of 13 and 25 per cent. of added water, again in December of 37 per cent. of water being added, and since the present summons was issued of their having been 39 per cent. of water added on February 20th. He had never been convicted before of having sold adulterated milk, but he had been fined £5 and costs for defrauding the railway company by travelling without a ticket. Herbert Saunders confirmed the story of his master as to where the cows were milked and the churn left to be called for. In answer to the Bench, Mr. Jones said there was little difference between the samples of milk taken in the winter and summer. If anything, the winter samples were richer than the summer samples. Even if cattle were fed on wet grains it would not bring milk down to the low standard he adopted for the analyses. Cattle fed on wet grains would yield poorer milk than others, but not to the extent of bringing it down below the standard of the referees at the Government laboratory. Mr. Willcock said if ever there was a case in which a heavy and exemplary penalty should be imposed it was this, inasmuch as defendant admitted that the milk was adulterated and yet failed to suggest anybody likely to adulterate it but himself. The one object the county authorities had in view was to see that the public were supplied with pure milk, and that retailers were not subject to annoyance and the risk of having their reputations destroyed by selling adulterated stuff which they had purchased as genuine. Mr. Armishaw agreed that the private rights of Edwards Creameries (Limited) were sufficiently protected by the stringent agreements they required the farmers who supplied them with milk to sign, and that it was no part of the duty of the public authorities to protect private rights. The essence of the offence was embodied in the first charge of adulteration, and if a defendant could show that he had reasonable



grounds for believing the statements contained on the labels delivered with the milk to be true he ought not to be convicted of the second charge preferred of breach of warranty. That was a matter as between the parties concerned, and Messrs. Edwards had other most effective remedies. The magistrates consulted for some time, and then Sir Charles Forster said the Bench had very carefully considered the cases and had decided to convict on both charges. If they were to recognise the plea that the second offence was a continuation of the first they felt that they would set aside one of the safeguards the Legislature had provided for the protection of the public and the retail traders in milk. The Bench had, however, taken what they considered a lenient view of the cases, and it must be understood that heavier penalties would be inflicted in similar cases in future. They fined Tomlinson, Hudson, and Cheate £3 each for the first offence of adulteration of the milk and £2 each for the second offence of supplying false warranties with the milk, and Averill they ordered to pay double the amount of those fines in each case. Thus, Tomlinson, Hudson, and Cheate would have £5 each and costs to pay, and Averill £10 and costs. The costs in the case of the three first-named defendants amounted to £3 10s. 6d. each, and in the case of Averill to £3 12s. 6d.

At Abergavenny, Herbert Gooch, Spitty Farm, Abergavenny, was prosecuted by Mr. Gustard, for the County Council, for selling milk containing 11 per cent. of added water, and was fined £5 or one month.

A Thomas Youdan, milk dealer, Hexthorpe, was summoned for selling adulterated milk on January 9th. Mr. Joseph Wilson, Inspector, gave evidence. Mr. Baddiley appeared for the defendant. The case was dismissed on defendant paying the costs.

**MARGARINE AND BUTTER PROSECUTIONS.**—At Lambeth, on March 5th, Eleanor James, of Crystal Palace Road, was summoned by the Camberwell Vestry for selling butter not of the nature, substance, and quality of the article demanded by the purchaser. There was a second summons against the defendant for delivering margarine to the purchaser otherwise than in a properly stamped wrapper. Mr. G. W. Marsden, solicitor to the vestry, appeared in support of the summonses, and the defendant was represented by Mr. H. I. Sydney. Evidence was given that showed that Inspector Groom, the vestry's officer, caused some shilling "butter" to be purchased at the defendant's shop. A sample of the article supplied was submitted to the public analyst, who certified it to be margarine. Mr. Hopkins ordered the defendant to pay a penalty of £3 and 19s. 6d. costs.

At Porth, Messrs. Lock and Co., grocers, Tonypandy, were summoned for exposing for sale unlabelled margarine and also for wrapping some in a plain wrapper instead of a printed wrapper as stipulated in the Act. Superintendent Coles stated that he visited the defendant's shop at Tonypandy on the 30th of January, and he there saw the defendant's assistant D. Davies, the person who appeared in the dock to answer the charge. He asked Davies how he sold the butter and he pointed out and said "This one is 10d. per lb." He (witness), asked for half a pound whereupon the assistant suspecting him of being an inspector then said "We sell this as cake butter." Witness replied I suppose you mean margarine, and Davies replied "Yes as margarine." The margarine was not labelled. Superintendent Cole continuing told the Bench that he spoke to Mr. Lock about the matter and he said he had only had the margarine in since Christmas and he had no labels in the shop. When he purchased the  $\frac{1}{2}$  lb. from Davies, the assistant, it was given to him in a plain wrapper whereas the word margarine should have appeared upon the wrapper in letters half an inch long. The Stipendiary said it was a great piece of roguery. Without a doubt the assistant would have sold the margarine as butter had he not suspected that Superintendent Cole was an inspector. Addressing the assistant Davies the Stipendiary told him that he believed he intended selling it as butter. A fine of £1 and costs in each case was imposed.

At the West London Police Court, on March 9th, a summons under the Margarine Act of last year was heard before Mr. Rose, and it created some interest. The proceedings were against the Grocery and Provision Shop Association, at the branch establishment, Salisbury Pavement, Dawes Road, Fulham, in respect of the sale of margarine containing at least 20 per cent. of butter fat. The name of Herbert Shorland was entered as the defendant. Mr. Blanco White, who supported the summons on behalf of the Fulham Vestry, said the summons was taken out under section 8 of the *Food and Drugs Act* of 1899, which was passed by the Legislature for the express purpose of stopping the mixtures in margarine. The previous Act was found insufficient, and a select committee of the House of Commons was appointed to consider the question, with the result that the Act was passed, and by section 8 the seller of margarine containing more than 10 per cent. of butter fat was liable to accumulative penalties. In his opinion, the wholesale dealer ought to be rendered liable. Answering a question put by the magistrate, Mr. White said that the retail dealer could only ascertain the existence of the mixture by analysis. Mr. Rose also inquired the intention of the Legislature in prohibiting the mixture of a better article, as he failed, he said, to grasp it. Mr. White said the feeling was that by putting in a better article the margarine might be sold as the better article. On behalf of the defendant it was stated that the margarine was

bought at the end of last year, but it was not sold until a few days before the purchase of sample by the inspector. The assistant who sold the margarine did not know what it contained, as it was not analysed. It was also stated that it was sold at the margarine price of 6d. per pound. Inspector Grigg, of the Fulham Vestry, corrected that statement, and said it was sold at eightpence per pound. Mr. Rose imposed a penalty of £1, with 12s. 6d. costs, remarking that it was somewhat of an unusual provision. There was a summons against the man who sold the margarine, but it was withdrawn.

At the Carnarvon County Magistrates' Court Hugh Owen was summoned by Mr. Vaughan Davis, inspector under the Food and Drugs Act, for selling milk which the analyst's certificate showed to be adulterated by 14 per cent. of added water. The certificate stated that the sample submitted contained 3.49 per cent. of fat and 7.29 per cent. of non-fatty substance. Mr. J. T. Roberts, for the defendant, maintained that the certificate must be incorrect, inasmuch as according to the authorities the proportion of water even in pure milk was 89.02; in any case, the dilution in this case must have been very small indeed. He also urged that the summons must fail, as no agency had been proved. The Bench suggested that if the accuracy of the analyst's certificate was to be questioned the case had better be adjourned in order that the analyst might attend himself. The defendant gave evidence that if water had been put in the milk it was against his instructions and without his knowledge, he being absent from home on the day it was sold. The Bench accepted that statement but nevertheless thought the case a serious one, and they inflicted a fine of 20s. and costs.

At Sheffield on March 7th, George W. Harris, provision dealer, 256, Shalesmoor, and his shopman, Thomas Robinson, were summoned for selling margarine for butter. Mr. W. G. Collingwood (of the town clerk's office) prosecuted, and Mr. A. Neal was for the defendants. On January 24th an inspector sent a woman to the defendants' shop to ask the price of butter, and she eventually purchased two half pounds. When analysed it was found to be margarine, as defined by the Act of 1887, and contained not more than 20 per cent. of real butter. Robertson sold the stuff. Later Harris wrote a letter, saying he was ill with pneumonia, at the time, and that his proper assistant had gone on errand, leaving Robinson, who was employed at a brewery, and who knew nothing of the provision business, in charge. Mr. Neal said the mistake was entirely due to the assistant leaving an inexperienced man in the shop whilst he went to fetch some "shoulders," of which he had run out. Robinson had previously assisted Harris. Harris was at home ill at the time, and his wife had not a great deal of time to assist in the shop. On the day the mistake was made Mrs. Harris could not possibly leave her husband. There was margarine in the shop properly marked and labelled, but since the summonses had been taken out Harris had ceased to sell it, so that in future a mistake could not be made. Robinson was called, and said there were two blocks, one of the best butter at 1s. 2d. per lb., and another of margarine at 10d. per lb. There was some broken pieces between the two, which he concluded had fallen from the butter, and as they were a bit knocked about he sold them at 1s. a lb. The defendants were each fined 40s. and costs, 10s. 6d. each.

**WEIGHTS AND MEASURES PROSECUTIONS.**—At Cardiff W. Richardson, grocer, Holmesdale Street, Grangeon, was summoned for using unjust scales. The instrument in question was a beam scale, and was "unjust" when loaded to the amount of seven drachms against the purchaser. Defendant, in defence, said it was owing to a new plate being put on the scale only a couple of days previously. The Bench imposed a fine of £2 and costs.—George William Bowler was summoned for a similar offence. In this case the Bench inflicted a fine of £3 and costs, the prosecution alleging that the scales had been tampered with.

**PRESERVATIVES IN CREAM.**—Muirhead and Sons case was again before Mr. W. J. Stewart, Stipendiary, at the Liverpool City Police Court on March 7th. Mr. Greer, for the defendants, explained that they had communicated with the people in London from whom they obtained the warranty for the cream, and ever since the summons was served on them the defendants had stopped the sale of the cream. He suggested in fairness the same course as was done in a similar prosecution in London when the magistrates agreed to adjourn the summons, the defendants undertaking to put on the bottle the fact that there was boracic acid in the cream, and the further hearing of the summons not to take place until the report of the Departmental Committee on the question was issued. Mr. Stewart said that as long as the defendants undertook not to sell any more of the article pending the report, he thought that was fair enough. The object of the medical officer of health was attained if the article was not sold. They wanted also to stop the sale of it if it was unlawful. That being the case, he presumed that Mr. Greer, on behalf of his client, would consent to the summons being adjourned *sine die*. Mr. Sanders, on behalf of the corporation, asked for costs against the defendants. Mr. Stewart said he could not make any order as to costs until the case was settled. Mr. Greer said it was only fair to Mr. Muirhead to say that he had no idea whatever that there was any boracic acid in the cream. He bought it with a warranty, and as soon as a complaint was made he stopped the sale of the cream.



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## Food and Sanitation.

SATURDAY, MARCH, 24, 1900.

### Coffee-House Prosecutions.

THE prosecution of coffee-house-keepers for supplying margarine instead of butter to customers who ask for "bread and butter" was initiated some six years ago by the earnest and indefatigable inspector to the Strand Board of Works, Mr. T. F. Strutt, but if we remember aright Sir John Bridge gave the effort to enforce honest trading a rebuff, the fact being we believe that the genial and excellent magistrate was over-worked and therefore somewhat disposed to very much discourage Food and Drugs Act prosecutions which when new issues are involved take up much time.

Coffee-house-keepers, we think, have on this account in too many instances taken to substituting margarine for butter. How largely this is done is evident from a series of summonses heard at Birmingham on March 16th. Mr. Hiley, assistant solicitor to the Town Clerk, said for some

time past, suspicions had existed that the bread and butter sold in coffee-houses in the lower part of the town was not of the quality demanded, and a series of visits were made by the inspectors. They found in eight instances that would come before the Bench that bread and margarine was sold for bread and butter. The first person summoned for selling "to the prejudice of the customer" was Mary Ann Eglinton, 122, Sandpits, who was stated to have served bread and butter of which the butter contained 100 per cent. of foreign fat. Defendant informed the Bench that she bought it for "best mixture," not for margarine. Butter was so dear that she could not afford to give it to the "men from the factories," who required large portions. She added that it was usual to ask for butter if butter were really wanted, but in reply to the Clerk (Mr. Carter) said she could give no evidence bearing out her assertion. The Magistrates' decision was deferred until the other cases had been heard. John Jones, caterer at the Market Hall, was summoned for selling butter containing 90 per cent. of foreign fat, but evidence was given that the assistant who placed the butter on bread for the inspector took what was only used for making pastry. The inspector said this explanation was given him at the time of his visit. Frederick John Bowkett, 15, Moat Row; Charles Drake, 12, Parade; and Elizabeth Redfern, 3, Bromsgrove Street, who were summoned for similar offences, stated that they bought the butter under the impression that it was of the proper quality, and Mr. P. Baker (for Mrs. Redfern) stated that proceedings would be taken in another court in respect of the wholesale dealer who supplied the inferior butter. Temperance Horton, 106, Hill Street, another defendant, pleaded that she had to serve newspaper lads who wanted plenty for their money. The remaining defendants were William Hodges, 2, Sherlock Street East, and George Henry Read, 12, Smithfield. The Chairman, in giving the decision of the Bench, said that there was a great similarity between the cases, which were the first of the kind brought before the Court. He wanted it to be understood that although the magistrates did not make any distinction between the cases, they considered that some of them indicated that excess profit had been made out of trading, while others had happened under a misapprehension, and the defendants concerned had been more sinned against than sinning. With these remarks, the Bench would simply inflict a nominal fine of 5s. and costs in each case. The Chairman added that traders should understand that a legal obligation rested upon them to supply what was asked for, and not even the best imitation.

The decision of the Magistrates is at the same time sound and lenient. Newspaper boys, carmen, and the poorer classes like a lot for their money, and the use of margarine enables the coffee-house-keeper to give the lot and make a decent living, but—and here is the critical point—margarine must be sold as such and on its own merits. Good margarine is *superior* to any but the finest butter, and if margarine makers were wide awake they would emphasise its superiority and not acquiesce in its sale under a fraudulent term



## What is Pure Butter?

### Decision as to the Use of Boric Acid.

His Honour Judge Sir Horatio Lloyd, at the Rhyl County Court, on March 16th, delivered an important judgment in a case of great interest to merchants, inasmuch as it affects the question of the use of boric acid in butter as a preservative. The case was that of Messrs. Roose and Co., grocers, Rhyl, versus Messrs. W. H. Parry and Co., Limited, Button Street, Liverpool, and the plaintiffs sought to recover damages for breach of warranty in respect of Irish butter sold in September last as pure butter, but which, on being analysed by the Flintshire county analyst, was found to contain ten grains to the pound of boric acid. The plaintiffs in the action were summoned before the magistrates under the Sale of Foods and Drugs Act for selling adulterated butter, but on their producing an invoice guaranteeing that the butter was sold to them as pure the case was dismissed. The plaintiffs now sought to recover from the defendants the amount they had spent, together with other expenses, in defending the case at the Police Court, together with an allowance for selling the butter at a reduction of 2d. per lb. in accordance they alleged, with the instructions of the defendant's traveller. In their defence, Messrs. Parry contended that they purchased the butter under the same guarantee as they sold it to the plaintiffs. The butter was known to the trade as pure butter, and it was argued that it was necessary to use boric acid or salt to preserve Irish butter in summer, otherwise the Irish butter trade would be a thing of the past. In the course of his judgment, his Honour said that the point he had to decide was whether or not the butter sold to the plaintiffs was pure. The analysts on each side had proved that there was boric acid in the butter. It was clear that there was a foreign substance in it to an appreciable extent. He had nothing in that case to do with the Adulteration Act, nor

whether the boric acid was or was not noxious and injurious to health. It was a legal question whether or not the butter complied with the guarantee that it was pure. According to the arguments in the case, the word "pure" had two meanings. One, which was to his mind the common-sense meaning, was that pure butter stood alone as it came from the churn, and had no foreign substance mixed with it. The other meaning was that it was pure as known to the trade. From what he had heard, the defendants were a firm of standing in their business, and in his opinion were incapable of imposing on the public anything that was not pure. He was, however, driven, from a legal point of view, to say whether or not the butter was pure; not whether it was harmless. He found that it was not pure, and if butter with 10 grains of boric acid to the pound was to be called pure where was the dividing line to be drawn? If 10 grains, why not 20, 50, or 100? It had been suggested in the case that the defendants' traveller had suggested that the plaintiffs should say that it was someone else's butter. He thought that there was a mistake as to what was really said. The traveller denied it, and he thought that what was said was this—"You are getting butter from other people; is it possible or probable that you got this from them?" He found that defendants' traveller had no authority to reduce the price of butter if he told plaintiffs to do so, and found for plaintiffs for £2 2s. and costs, being their expenses in defending the police court case. There was a legal warranty, but no fault was attached to defendants. Mr. Pride (defendants' solicitor) asked for leave to appeal, and his Honour granted it within 10 days, subject to plaintiffs being paid their costs on scale C. In the event of the appeal not going on, ordinary costs to follow. His Honour commented on the importance of the case. Mr. F. J. Gamlin (Rhyl) represented the plaintiffs

## Wanted Punishment for our War Office Rogues.

In the blaze of glory of the achievements of Lord Roberts, Generals French, Buller and White, the gang of "Mean Whites" who have for years run our War Office as a nest of corruption, hope to escape punishment. They must not. The expedient of throwing over a couple of contractors and giving them to public approbrium must not be taken as enough, the whole place stinks of corruption, secret commissions and traitorism.

Take the bad meat for transports, of which the Southampton Medical Officer had to report:—"I visited the American Quay, where I examined 143 large pieces of frozen beef and 80 whole sheep, which had been supplied by a London firm to the troopship "Arawa." With the exception of a few ounces of meat, which apparently were not frozen nor of the same class, the whole quantity was unfit for human food, the bulk being in an advanced state of putrefaction. The meat was seized, and was examined by one of Her Majesty's Justices of the Peace, who ordered the same to be destroyed."

Has any action been taken to imprison the scoundrels who supply such rotten food for our troops? None what-

ever. In the cases which Mr. Howell's pertinacity compelled Mr. Powell Williams to disclose to the House of Commons we see how hard it is to get presumed honest M.P.'s representing the War Office to tell Parliament the whole truth. This screening of the worst of knavery had its most despicable exposition in the case of the man Dunn, who was hounded out of his employment because he exposed one thieving contractor.

Another evidence of the capacity of our War Office is the following:—

In reply to a cycle editor, who demanded to know the why and the wherefore of the military authorities not using cycles in the Army, he was furnished with the extraordinary statement that the War Office was waiting for the standardisation of nuts and bolts! After such a statement nothing too idiotic can be expected from Whitehall. Our War Office needs no half enquiry and a hush up. The incompetent enemies of England and the rogues who take secret commissions need to be kicked out *without pensions*, and whilst the occasion serves, the public should demand the only true remedy.



## Dietetic and Hygienic Notes.

### The Effect of Water upon Nutrition.

WHILE the various methods resorted to in the dietetic management of obesity differ more or less in regard to the relative amount of proteids, carbohydrates and fats prescribed, they are in accord—with scarcely an exception—as to the necessity of limiting the ingestion of water. The oldest of these methods, that of Dancel, is based upon the reduction of liquids and the prohibition of fats and starches, while that of Banting reduces the liquids as well as all the varieties of solids. Characteristic of Ebstein's system is the large quantity of fats entering into its dietary, the advantage of taking so much fat lying in the fact that its use lessens hunger and thirst, and thus facilitates the reduction of liquids. Oertel decreases the fluids, especially in the obese who are affected with lesions of the circulatory apparatus, particularly with a fatty heart. By reducing in this way the abnormal tension of the arterial and venous systems, he relieves the infected heart. Schweninger allows no water during meals, but permits it to be drunk several hours afterward. Reduction of liquids is also a feature of the system advocated by Dujardin-Beaumetz.

The interesting question arises, What is the influence of fluids upon nutrition? The problem, although it has been the subject of much controversy and careful experimentation, is not yet solved. In an exhaustive paper dealing with the treatment of obesity Lozè, in *La Clinique*, reviews the various researches that have been made in order to find an adequate explanation.

The investigations of Genth have shown that water, when taken into the system in considerable quantities, increases the amount of urea and salts of the urine. According to A. Robin, whose view is supported by the experiments of Forster and Voit, this excess of urea is caused by an increase, not of organic disintegration, but of elementary combustion, a certain proportion of it being also due to a more thorough washing out of the tissues. L. Mayer, Rabuteau, J. Hoffmann, and Bischoff have not found that the ingestion of water favours the disintegration of albuminoids, but the alimentary régime employed in their experiments is not definitely stated.

A. Robin has divided the obese into two classes, *viz.*: (1) The obese by excess of assimilation, individuals who are large eaters, and (2) The obese by disassimilation, that is, those who eat sparingly. The former he would have avoid liquids, the latter would be permitted to take them. To distinguish these two categories he determines whether the excretion of urea is augmented, diminished, or stationary. In the first case there is an excess of assimilation, in the second an insufficiency of oxidation. Where, as in the third case, the amount of urea does not vary, it becomes necessary to find the co-efficient of oxidation, *i.e.*, the ratio existing between urea and the total solids. If this be augmented, we have an obesity by excess; if diminished, an obesity by deficiency. Where the co-efficient of oxidation is diminished, liquids should be prescribed; where it is increased, a judicious selection of food is indicated.

Debove, disputing the correctness of these observations, maintains that the loss of fat noted by Robin must be ascribed to an insufficient food ration. Together with Flamant, he has made a careful study of the influence of water on nutrition. Flamant submitted himself, during 38 days, to a régime composed of 200 gms. of raw meat deprived of its fat, 250 gms. of fresh bread, and 1250 gms. of water. In 27 days he lost 19 pounds. The dietary was then modified so as to bring the quantity of meat up to 300 gms. The body weight having ceased to vary, the allowance of water was raised to 3250 gms., with the result that the weight continued stationary. Two other

experiments gave similar results, whence Debove and Flamant conclude that water has no influence either upon the increase or diminution of fat. Robin accounts for the results obtained by these observers by assuming that the subjects of their experiments were put into a condition of nutritive equilibrium.

Von Noorden has found that the excretion of urea augments when the quantity of water absorbed is at first relatively small, and that there is no increase when the intake is suddenly raised from 2 to 3 or 4 litres. Gregor'antz, of St. Petersburg, has also observed an increase of proteid disintegration when the amount of fluid drunk reached 1400 to 2400 gms. Kisch recommends that the obese, especially when plethoric, take large quantities of water.

Loewy, Bidder, and Schmidt have failed to observe an augmentation either of the oxygen consumed or of the carbon dioxid expired after an increased allowance of water. Briquet, in studying the hygiene of workmen in a cloth factory, found that these were often obese, although they worked hard and perspired abundantly. He attributes their condition to the excessive drinking of water—in daily quantities of as much as 5 litres—and, to some extent, to the use of alcohol. With Debove, he holds that, given a sound individual, there will be no augmentation of fat if the amount of water be suddenly increased. He is in accord with Robin in believing that water has no effect in some cases of obesity and is detrimental in others. Briquet also thinks that a person working for several years in a hot and damp atmosphere, and obliged, therefore to drink large quantities of fluid, is apt to lay on fat.

During exercise, or immediately after it, subjects of obesity should avoid fluids, which probably counteract, in part at least, the benefit that—viewed from the standpoint of his affection—the patient should derive from his expenditure of force.

From what has been said we may consider it as probable that the flushing out of the tissues by water favours the elimination of urea. For this reason, the privation of fluids should not be carried too far. A reduction is necessary, however, for the reason that the patient is sooner satiated when he drinks but little while eating. Matthieu has called attention to the relations existing between edema, pseudolipoma, and lipoma, which show that a certain degree of dehydration of the tissues is of advantage.

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### Diet in Infantile Diarrhœa.

FOTHERINGHAM, in a paper on "Infant Feeding and Infantile Diarrhœa," prepared for the Toronto meeting of the Canadian Medical Association lays particular stress upon the value of prompt intervention in acute cases, and on the giving, for twenty-four hours at least, of nothing but from one to two ounces, every two hours or oftener, of sterilized water, to which a pinch of salt and a taste of sugar, preferably milk sugar, has been added, cannot be disputed. It is borne out clinically, says the author (*Dominion Medical Monthly*) by the fact noted by Booker that "none of the bacteria isolated (from the stools) were found to be capable of multiplying in ordinary hydrant water forty-eight hours after it had been inoculated; in all such cases negative results were obtained." After the first twenty-four hours or so are passed it may be well to attempt the use of some nutritive fluid—and at the outset one must decide whether to use albuminous or farinaceous materials. If the stools are not specially foul albumins may be given, and the best one is probably egg-water. White of egg contains about 10 per cent. of albumin, and should be diluted with about ten times its bulk of sterilized water, with a little salt and a taste of sugar, as it is stated



by Biedert that a solution of albumin stronger than 1 per cent. may be digested as a rule by even the healthy stomach, and it is found in practice that a "3-6-1 mixture," as it is called (3 per cent. fat, 6 per cent. carbohydrates, and 1 per cent. proteids) is a very generally useful form of modified milk, approximating closely on average breast-milk. Another good albuminous food is the red meat-juice in drachm doses added to the water or other fluids that may be in use. Liquid peptonoids, panopepton, and so forth, may be mentioned in this class. As to the farinaceous fluids, they are all of the same type, and may be equally well made from barley, rice, oatmeal, sago, tapioca, corn-starch, or arrowroot, so long as one bears certain points in mind. One point is that the more vegetable albuminoids there are the better, and that, other things being equal, the husk and the layers of the grain next it should be boiled as well as the starchy contents of the grain.

Another point is that very thorough boiling is necessary, three to four hours at least, to cause diastatic change and prevent trouble from the indigestible starch. Thorough straining, too, is important. The consistency of a farinaceous fluid should be that of thin to medium cream, such as will pass easily through an ordinary rubber nipple. And now that the nipple is mentioned, it is worth while remarking that if the stomach is irritable it is very often due to the fact that the hole in the nipple is too large, and the child swallows too rapidly.

One of the most useful of all the starchy preparations is likewise the oldest, the good old bag of flour the size of the lower half of the forearm boiled steadily for ten hours. The outer shell is thereafter removed, and the firm central part, like a piece of soft white bath-brick, grated down and slowly reboiled, as required, with water to make a gruel of a consistency varying with the age of the child. For children over six months, at any rate, this is a most useful food in diarrhoeal conditions.

One will often find whey very useful, made either with sherry, or, what I think is better, essence of pepsin or junket-powder. It makes an excellent vehicle for liquid peptonoids or red meat juice.

Fischer, in a recent number of the *N. Y. Med. Record* speaks highly of very weak cold tea, especially when stimulation is desired, and of an acidulated drink made by adding to a tumblerful of plain boiled and cooled water five to ten drops of dilute hydrochloric or phosphoric acid, and sweetening with a little glycerine (a powerful antizymotic) or saccharin.

It is well on inaugurating the change of diet to try to strengthen the interval of feeding—always bearing in mind the urgent need of water to replace the fluids drained from the tissues by the diarrhoeal loss. Thus, if a child has been getting four ounces, two of milk and two of barley-water, every two and one-half hours, one should try to give, instead, say four ounces of barley-water with a drachm of red meat-juice every three to three and one-half hours. As regards temperature, either extreme seems to me bad, particularly in young infants. Some say the food should always be cold. This may apply to children of ten to twenty months, but in infants of, say, three months, it aggravates pain and has no counter-balancing advantage.

The return to milk should be very tentative. Casein should be allowed last, and fat first in the shape of small quantities of cream, say half to one teaspoonful at each time of feeding, added to the barley-water or other farinaceous fluid, and slowly increased. The cream should never be bought as such, but obtained by removing the top two inches from the jar which has been left five or six hours on the ice.

Rachford goes so far as to say that "cream is theoretically never contraindicated, and can do no harm in any form of a disease, but will be found to serve the best purpose in chronic cases, and after the third or fourth day in acute cases." My own clinical experience will hardly tally with the statement that "cream can do no harm in

any form of the disease." The same writer goes on to say that "meat broths contain so little albumen and carbohydrates that . . . they may be given at any time, in either acute or chronic cases; but they are specially indicated in a few cases after the first twelve or twenty-four hours' treatment." One danger in their use lies in the fact that they are very apt to be kept far too long after making, for they very promptly turn stale. A contraindication to their use would be foulness of stools or great frequency and copiousness. If the morbid process be mainly a colitis they can be given more freely.

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### Whose Ginger Ale Is This?

THE *Philadelphia News* is authority for the following statement: "A bar-tender plaintively bewailed the necessity of having to rub congealed drops of sticky beer off the bar. 'But if I let them remain,' said he, in a tone of one seeking compassion, 'they rot the wood.'

"'They rot the wood, do they?' fiercely repeated a beer bibber. 'Then what in the name of common sense does beer do to my stomach?'

"Replied the manipulator of drinks: 'It is beyond me to tell. Let me show you something.' He placed a piece of raw meat on the counter, and dropped upon it a small measure of an imported ginger ale. In five minutes the meat had parted into little pieces, as if hacked by a dull knife."

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### Notes on Skimmed Milk.

WHAT, it may be asked, says the *Farmer's Gazette*, is the material best adapted for replacing the fat that is withdrawn from the skim milk in the process of separation for calf feeding. This is a point about which there is considerable difference of opinion among recognised authorities, for while some contend that there is nothing to equal linseed for the purpose, there are others who hold that better results are obtainable from the use of maize meal and various mixtures of oat meal, pea meal, and other substances. For years we have known linseed or flaxseed to have been largely used for this purpose with highly satisfactory results, but recently various experiments carried out on the Continent and in America have gone to suggest that maize meal is even better adapted for the purpose. This is one of a number of questions in regard to which there is room for interesting and instructive investigation, and we are very pleased to learn—as we do from the remarks made by Mr. Barter at the Munster Dairy School, at Cork, that the Royal Dublin Society is about to organise a series of experiments with the object of testing the relative merits of various substances as substitutes for the fat removed from separated milk.

The two great objections always advanced against separated milk by those who claim to have tried it and found it wanting, are (1) that the animals fed on it never do so well—either as calves or subsequently—as those which get whole milk during the first few months of their existence, and (2) that if it is used in any quantity it is a sure cause of that most destructive of calf diseases, "white scour." To what extent are these objections sustained by facts? That each of them has some foundation cannot be gainsaid. Even the most enthusiastic advocates of separated milk cannot reasonably go so far as to argue that even when enriched by the addition of suitable fat-forming substitutes, it is as good food for calves as normal whole milk, and it is very generally conceded that its injudicious use has contributed to no inconsiderable extent to the heavy losses occasionally sustained by farmers in the South of Ireland from outbreaks of white scour during the past fifteen years. In our experience both these objections are very much exaggerated, and the advantages obtainable from the judicious use of separated milk far more than counterbalance any shortcomings under which it may labour in the direction thus indicated,



**Dr. Chas. Porter on the Slaughter of the Innocents.**

INFANTILE mortality is terribly excessive in Stockport, higher, in fact, than in any other town except Preston, and sometimes Longton. In other respects you have faced and fought your death-rate with an encouraging measure of success, but your infantile mortality remains as high as ever. Much of it is, there is no doubt, due to ignorance and neglect in regard to the feeding and care of infants, says Dr. Chas. Porter, M.O.H., Stockport, in his annual report. Dr. Porter, asked the Sanitary Committee to consider whether they could not do something to stimulate early education in this respect, by way of instituting inducements in the form of small prizes or certificates for the elder girls in elementary schools to acquire some knowledge as to the feeding and care of infants and the elements of domestic hygiene. "It may be said," he added, "that such efforts will meet with only a small measure of success, but it cannot be admitted that because so many mothers are entrenched behind inherited ignorance, indifference, and prejudice, which are almost knowledge-proof, we should make no attempt to dislodge them, or to enlighten those who, in the near future, will incur the responsibilities of maternity." The Committee, sympathising with Dr. Porter's efforts, has taken means to obtain the opinions of medical men, school managers, teachers, and others on his suggestions.

During the six years, 1893-8, on an average some 213 out of every 1000 children born in Stockport, died before completing their first year of life, and that these deaths account for nearly 30 per cent. of the whole death-rate of the borough. Dr. Porter has analysed the 5000 odd infant deaths that have occurred since 1893, and finds that more than 50 per cent. of them are the result of errors of diet and the lack of ordinary care. "I have further considered," he says, "various measures, e.g., the institution of *crèches*, which have been suggested as remedies for this evil, but am more and more convinced that any change for the better must be commensurate with the spread of knowledge of infant hygiene amongst mothers and those who, in the natural course of events, will become mothers."

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**Raisin Making.**

ONE of the California papers gives the following description of how raisins are made.

The gang moves in a bunch, clipping off the translucent clusters of muscatels, arranging them upon the trays to shrink and shrivel under the rays of the sun into the concentrated delicacy we know. Behind them the lines of trays lie, a basking array of shimmering fruit, and someone interested is shoving the clusters together, that the tray shall be honestly filled, for the workers are paid by the tray.

After two weeks' exposure to the dry heat the filled trays are ready to be turned so that the grapes may be cured evenly. This is accomplished by two men, one on either side, placing an empty tray over the full one, dexterously reversing it; then, carrying the upper one with them, repeating the process on down the row. It is at this stage in the curing that the grapes are most delectable.

The amber is changing through ruddy stages to amethyst, and the sun-warmed balls are drops of honey—double distilled, so sweet that they make you long for a great thirst for the red water-tank, shimmering in the sunlight forty acres away; but you must eat, and eat, and eat and go on eating even while your palate is cloying with the sweetness.

In another week the dried grapes are ready for the sweat-boxes. These wide, open boxes contain from 150 to 160 pounds, and as the raisins become sufficiently cured they are sorted from the others and placed therein, the large, perfect clusters, and the inferior, broken pieces in separate boxes. These are usually carried to a sweating

house, a closed structure in which they soften and moisten evenly, the drying having made the stems exceedingly brittle; or simply stacked in one corner of the packing-house to await the grading and packing.

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**"Tropon"—A Promising New Food Product.**

It is from the laboratories of our German confrères that most of the advances in chemical physiology and physiological chemistry are being made. These patient experimenters,—we Americans are in too much of a hurry to imitate them,—have given us a long list of synthetic derivatives, including nearly all the endless coal-tar series and scores of the iodo-potassium and sodium compounds which figure so prominently in modern antiseptics.

They have immensely ampler facilities and apparently unlimited time at their command, and their perseverance knows no bounds.

One of their latest developments is a food product which promises to be a great acquisition in the treatment of all the wasting diseases. In view of the great multitude of vaunted food products of the past decade this is saying a good deal.

The new candidate for professional favour is called "Tropon." To the non-classic mind the name signifies nothing, but there is no quarreling with names.

"Tropon" is essentially a concentrated form of albumin, and as is well known albumin is the chief constituent of the body, standing as a representative of the entire group of proteids. It is important to remember that the chemical constituents of albumin vary according to its source, but at all times include quite all the elements required for the growth and supply of the tissues. Its approximate formula,  $C_{72}H_{112}N_{18}O_{22}S$ , indicates its complexity. The percentages of its constituent elements vary as follows: Carbon, 51.5 to 54.5; hydrogen, 6.9 to 7.3; nitrogen, 15.2 to 17; oxygen, 20.9 to 23.5; sulphur, 0.3 to 2.0. Its protean character is sufficiently indicated by the number of forms in which it is found, as acid-albumin, alkali-albumin, serum-albumin, muscle-albumin, ovum-albumin, vegetable-albumin, etc. This complex and comprehensive proteid forms all the solids and most of the fluids of the body, muscles, nerves, glands, serum, etc., etc. Consequently it is competent, in a dietetic sense, to repair waste and supply pabulum for the entire organism. If this fact were more generally borne in mind it would greatly simplify the study of dietetics. It is from a recognition of this fact that there has been so much experimentation with the albuminous groups by those who have essayed to provide artificial foods for invalids. The market is already fairly well supplied with various forms of albuminous foods, some of which are theoretically well adapted for the object in view. The list will occur to every physician, and need not be named; but thus far the vital objection has been that these chemically "ideal" preparations have lacked a prime essential, that of palatability. But for this lack it would appear to be superfluous to add to the many preparations already bidding for patronage. The manufacturers of this new claimant are the first to overcome this serious drawback; and after several years of the most exacting clinical tests this new product of the laboratory probably comes nearest to realizing the "ideal" form of artificial or prepared nutriment so long sought. They have perfected a process by which they can uniformly supply a combination of vegetable and animal albumin, in the form of a dry and non-hygroscopic powder that is unquestionably palatable, and that will keep indefinitely in any climate. When we add to this that it can now be supplied in practically unlimited quantity, and at very moderate cost, the value of the acquisition can hardly be estimated. It affords the maximum of nutriment in a minimum of bulk, and will therefore find use in a variety of ways outside the



sick-room, many of which will suggest themselves. Travellers making long journeys, prospectors, and explorers, and all those who go down to the sea in ships, and especially the armies and navies of the world, should find in this product a much needed desideratum.

In his recently issued work on "Pulmonary Tuberculosis," Dr. Knopf, physician to the lung department of the New York Nose and Throat Hospital, refers to its value in the feeding of consumptives in the most flattering terms. He used it in a number of those extreme cases in which there is an uncontrollable aversion to fats of every kind, and in which progressive emaciation is a marked feature. Perfect palatability and persistent tolerance were uniform and without exception, and in over 80 per cent. of his cases body-weight was steadily increased from the first.

If this product maintains its high character for purity and palatability, and further experimentation corroborates the history of its past successes, the field for it is well-nigh illimitable.

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### Transmission of Tuberculosis from Cow's Milk.

By W. T. PARKER, M.D., Westboro, Mass.

DR. ROBERTS contributes to the *Journal of the American Medical Association* a very interesting article in which he appears to throw some doubt upon the generally accepted theory that tuberculous cows can through the medium of their milk convey tuberculosis to man. This paper is reviewed in an editorial in the same number. Considering the fact that the International Congress for the Study of Tuberculosis met in Berlin as recently as last May (24th to 27th), this is especially important as being entirely opposed to the views so openly promulgated there. The Germans have given most careful attention to the subject, and from Koch down a large number of scientists have made very careful investigations. This congress was held under the patronage of the Emperor, and its membership contained some of the greatest physicians the world can produce. The congress decided, if we are rightly informed, that tuberculosis is easily conveyed from man to animals, and *vice versa*. Tuberculosis has been found in swine feeding upon diseased cow's milk.

Every possible precaution was considered against the spread of this disease—except that goat's milk for children and invalids was not referred to at all. Yet in many countries in Europe, notably in Switzerland, and in Asia and Africa, goat's milk is largely used. Boys take small herds through the streets and milk them in the presence of the purchaser. Honey is also prescribed to be eaten upon bread, in connection with drinking the milk of goats. These animals are immune to the poison of tuberculosis.

The congress, among many other valuable suggestions for the prevention and cure of consumption, declared that "milk should be used only after the animals (cows) furnishing the milk supply have submitted to the tuberculin test and have been proved to be free from the disease. The sale of milk from such animals as have not been submitted to the tuberculin test should either be forbidden by law or it should be sold only after thorough sterilisation. It is well known that milk, not only from cows that have generalized and udder tuberculosis, but also very often from cows which have only local tuberculosis, may be dangerously infected, and the continued use of uncooked milk from such animals is especially dangerous for children and young people. The fact that tuberculosis is found often in swine, as well as in mankind, that have been fed upon the milk of tuberculous cattle is good enough evidence for most physicians that the disease may be contracted by milk drinking. More than one such case has come under my own notice of deaths of infants and young children from the milk of diseased Jersey cows. In each case the cows were owned by the family of the infected children.

"The wide distribution of tuberculosis amongst children and the localization of the disease in many cases are indications of infection by the use of milk."

Referring to the various methods of cure: "*Scientific experiments in the line of serum therapeutics promise better results than any other, and thus may eventually lead to some thoroughly satisfactory method.*"

This is most excellent encouragement for those who are interested in the use of normal goat's blood serum in the treatment of tuberculosis. The use of goat's milk and goat's serum in the treatment of all forms of tuberculosis is I believe the best method of cure available to-day, so far as serum treatment is concerned. Of course, nothing can equal the climate cure of New Mexico and eastern Arizona. The combination is the ideal. Long ago drugs have been entirely abandoned by some excellent physicians. Where do we find iodide and bromide of potassium, morphine, and nauseating cough mixtures, cod-liver oil, petroleum, creosote, and such remedies prescribed for consumption? Out-of-door life in the climate of Switzerland, Ventnor, Isle of Wight, the Adirondacks, the seashore, North Carolina, northwestern Texas, the Panhandle, Indian Territory in some places, New Mexico, Arizona, Montana, and Colorado, nourishment, and occasionally a carefully selected iron tonic, are the remedies generally prescribed. The use of the cow's milk after tuberculin tests have been made I never could consent to.

The Germans have taken the lead in the establishment of sanitariums for consumptives, more or less after the plan of the famous hospital near Ventnor, on the Isle of Wight. Good results from well managed sanitariums even in the climate of Massachusetts have been observed; and what was rare twenty years ago in the rational treatment of consumption in sanitariums is now quite common from the Atlantic to the Pacific.

The importance of faithful investigation of tuberculosis cannot be gainsaid, but when the rumour is set afloat that tuberculosis in cattle and pigs is not identical with tuberculosis in man, a great harm is likely to be done the cause of sanitary reform.

A difficult work it is to control the milkmen and force them to give up the sale of adulterated and unwholesome milk, much of which is unfit to give to swine.

When we go about on our sick calls and see children and adults dying for want of nourishment and examine the milk purchased for their food, we are forced to believe that sanitary laws preventing the sale of unfit milk are most urgently needed.

The milk dealers as a class are indifferent as to the quality of the milk supplied, and that which is fit to prescribe for our patients is of a very small amount. The farmhouses, the barns, the wells, cisterns, and the food for the cattle and the care bestowed upon them by their economical owners, are a strong incentive for us to inquire whether we cannot do better by those entrusted to our care by making use of goat's milk, which we know can be obtained pure and wholesome.

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### Seltzer Water.

DR. CARLOS, of Bordeaux, has called attention to the inferior and dangerous products commonly sold under the name of "seltzer water" in France. It appears that the so-called seltzer water can now be produced at so cheap a rate that in many cafés and other refreshment establishments it is provided to customers *gratis*. In consequence of the low price at which apparatus for charging water with gas can now be obtained, all sorts of persons constitute themselves manufacturers of seltzer water. Water of any sort is employed for the purpose. It is saturated with carbonic acid gas, so produced as to be very impure, and is delivered in syphons of inferior quality, the fittings of which are made of a metal rich in lead, of which notable quantities enter into solution. These strictures apply with equal truth to many of the aerated drinks supplied in the United States, which are the products of unscrupulous manufacturers, and the use of which is dangerous to health. A guarantee as to quality is especially necessary in regard to such preparations.



### The Committee on Milk Standards.

THE Departmental Committee appointed by the President of the Board of Agriculture to inquire into the question of milk standards, met on March 1st, at 3, St. James's Square. Lord Wenlock was in the chair, there were also present Mr. G. Barham, Mr. G. Cowan, Major Craigie, Mr. S. W. Fanner, Dr. Shirley F. Murphy, Dr. Thorpe, and Dr. Voelcker, and Mr. R. H. Rew (secretary). Dr. Alfred Hill, medical officer of health for Birmingham,

gave evidence to the effect that public milk supplies ought to be considered adulterated when they contain less than 12 per cent. of total solids. Taking the whole dairies of cows milked under his own observation he had never known the total solids fall below 12·68 per cent.—Dr. Bernard Dyer, public analyst for Leicestershire, etc., stated that for a number of years past public analysts have taken as a limit 8·5 per cent. of non-fatty solids and 3 per cent. of fat, and this had been found to work well in practice.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

#### THE GOLDEN SYRUP APPEAL.

This important appeal was heard at Liverpool City Sessions on March 13th, before the Recorder, Mr. C. H. Hopwood, Q.C. Mr. Thomas Garrett appealed against a conviction by the stipendiary magistrate under which he was fined £5 and costs for selling a tin of golden syrup which was not of the nature and substance of the article demanded. Mr. Scott was for the appellant, and Mr. Tobin for the respondent.

Mr. Tobin said that it was alleged by the prosecution, as a result of which allegation a conviction was obtained, that the article sold as golden syrup in this case was adulterated. On December 11th an inspector under the Food and Drugs Act purchased a 2 lb. tin of what purported to be golden syrup at the appellant's shop. The words "Golden syrup" were printed in very large red letters on a gold ground, and the tin was wrapped in a wrapper bearing the words "Superfine Golden Syrup." The inspector paid 6l. for the tin and gave the usual notice as to the analysis. The substance was duly analysed both by the city analyst and by the Somerset House authorities, and was found to contain over 70 per cent. of glucose syrup. He (Mr. Tobin) would like to explain that golden syrup was the final uncrystallisable product of sugar-refining; what remained after all the sugar possible had been taken out of the sugar by crystallisation was pure and unadulterated golden syrup. A point of the case was that this last pure product was always dark in colour. Glucose syrup, which was really starch sugar, was an entirely different thing, being white in colour. He handed the Recorder samples of pure golden syrup, and of the white starch sugar, or glucose. No less than 70 per cent. of this latter starch sugar was found in the tin in question. This starch sugar, which was invented long after golden syrup came into common use, was made from the starch found in maize. The maize starch was boiled in diluted sulphuric acid, and was thereby converted into the liquid glucose, a sample of which was before the Court. He wished to say at once that this glucose was not injurious to health, but it had less sweetening power than golden syrup proper. About fifteen years ago this starch sugar became very cheap—far cheaper than golden syrup proper. Thereupon a new trade was established in table syrup, which were composed of golden syrup plus starch sugar, which in some cases was used in the proportion of as much as 80 per cent. This starch sugar was used for three reasons, viz., for economy; secondly, to retard the crystallisation of golden syrup, and, thirdly, to obtain the pale yellow colour which had come into fashion, the golden syrup proper being very dark.

The Recorder: What is the difference between golden syrup and the treacle of our youth? Was it not so refined? If the treacle were more refined would it become golden syrup?

Mr. Tobin replied that golden syrup got darker in the course of refining. The mixture of glucose with golden syrup was perfectly legitimate if the mixture was then called—as many people called it—table syrup. But what the authorities objected to was to this mixture being called, by means of large letters on the tin, golden syrup. The only sections of the Act with which the court would be troubled were Sections 6 and 8. If the facts were right—and he understood they were undisputed—he clearly did not get what he wanted—golden syrup, but he got a mixture containing 70 per cent. of a product of starch.

The Recorder: You demanded golden syrup and did not get it, and for that offence a penalty of £20 is provided.

Mr. Tobin conceded that the substance was not injurious to health, but the manufacturers could not claim exemption by saying that the glucose was necessary for the protection or preparation of the article, or at any rate that 70 per cent. of the glucose was necessary. He could prove, as a matter of fact, that plenty of pure golden syrup was sold in the market.

The Recorder: Who are the manufacturers of this article? Mr. Tobin: Messrs. Macfie and Sons, of Liverpool, who are really defending this case. The Recorder: Do you say that the use of this glucose is fraudulent within the meaning of the Act? Mr. Tobin: Yes. The Recorder: And you say the golden syrup is more wholesome or more nutritious? Mr. Tobin replied that if Messrs. Macfie said that the starch sugar was more nutritious he would not contest the proposition, inasmuch as it did not affect the matter. He contended that if he asked for a certain article he was entitled to get it. He did not suggest that anything unwholesome had been introduced, but he contended that if the trade found that golden syrup was going out of fashion and that something of a lighter colour was wanted, the mixture produced to meet that demand must be sold by a name other than golden syrup. There was a label across the tin in question bearing the words "No chemicals" across the centre. He contended that this label was not a straightforward one, and that it required consideration on the part of the purchaser. The words "No chemicals" were printed in very small letters compared with the words "Golden syrup," which stared you in the face when you bought the tin. There had been plenty of coffee and chicory cases before the court; why, he asked, in this case was it not stated that "this is a mixture of starch sugar and golden syrup"? He urged that as there was no label to this effect, and as the attention of the inspector was not called to the fact, this label should not protect the defendant. He contended further that the words "No chemicals" were inaccurate, because this starch sugar was made entirely by boiling the maize starch in diluted sulphuric acid, so that the starch sugar which formed 70 per cent. of the contents of this tin was made by chemical treatment.

The Recorder: You say that the label is insufficient, and that it is not true?

Mr. Tobin replied that that was Messrs. Macfie's own view, for in their own circular they called these syrups table syrups and amber-coloured syrups, and they said they were prepared to guarantee their customers against prosecution, provided the word "golden" was omitted in selling the syrup if it was not so branded.

Mr. Scott retorted that this circular was issued to the trade in January, 1899, the prosecution in respect to golden syrup having been commenced the previous month.

Mr. Tobin declared that this circular was headed "How to avoid prosecutions," and stated that Macfie's superfine syrup—the very article before the court—contained glucose, and must not be sold as golden syrup; and so that in Messrs. Macfie's own view this article ought not to have been sold as golden syrup. The circular continued to state that Macfie's "Double X" and "Triple X" did not contain glucose, and so might be sold as golden syrup.

The Recorder noted that a later circular also stated that the firm had sold 134,000 tins in four months and there had been no prosecutions, and he supposed Mr. Tobin was going to say that there ought to have been prosecutions. (Laughter).

Mr. Tobin then referred to the matter of cost of the golden syrup and the glucose. The cost of the former, he said, varied from 12s. 6d. to 9s. per cwt., according to colour—or, in other words, according to the number of filtrations through which it had passed: white starch sugar, which had in this case been added to the extent of 70 per cent., cost 7s. 6d. per cwt. The inference, he ventured to say, was obvious. Mr. Macfie admitted in the court below that the starch sugar was less costly than the golden syrup—in other words, that it was an inferior quality of syrup. He produced for the information of the court a 2 lb. tin of pure golden syrup, bought at a cost of 4d., and duly analysed. The tin in question, containing 70 per cent. of glucose, cost 6d.

Mr. Scott: The proper retail price is 4½d.

Mr. Tobin in concluding his opening address said that a great number of mixtures were being sold, but that these mixtures ought to be sold as table syrups, or by some name other than golden syrup, as which the tin in question was sold.

Inspector Baker gave evidence as to the purchase of the tin bearing the description of golden syrup and also labelled "Golden Syrup."



Mr. W. Collingwood Williams, public analyst for Liverpool, stated that he found the tin to contain no less than 70 per cent. of glucose or starch sugar. Golden syrup was the uncrystallised saccharine liquid that remained as the by-product of the raw cane sugar after all the sugar had been crystallised from it that could be got. The colour of golden syrup varied from a pale yellow to a very dark brown, as the more filtrations there were the darker it became. The starch sugar was made from the starch found in maize. It was not injurious to health, but it was not as wholesome as golden syrup. Glucose was greatly inferior to golden syrup; it sometimes had no sweetening qualities at all, and often left a disagreeable taste in the mouth.

The Recorder: If you put 70 per cent. of something which has no sweetening quality into golden syrup you are diluting the sweetening power of the golden syrup? Witness: Exactly. By Mr. Scott: Glucose was a form of sugar; it could not be called sweet, although it had a sweetish taste. Mr. Scott remarked that as a sugar expert was to be called it would save the time of the court if he contented himself by cross-examining that gentleman only.

The Recorder, tasting the samples of pure golden syrup and sugar starch before him, here remarked: I do not know if it is right for me to give expression to it, but I certainly like this (indicating the golden syrup) better than that (indicating the glucose). This remark caused considerable laughter in court.

Mr. Siegmund Stein, technical sugar expert, who has for nine years been manager for Messrs. Crossfield, Barrow and Co., sugar refiners, Liverpool, said he agreed with the definition given by Mr. Williams of golden syrup and of starch or glucose sugar. He considered that the sweetening power of cane sugar was at least three times as great as that of glucose. About fifteen years ago the Americans started to mix the natural product of sugar-refining with glucose sugar. The Recorder: They started the wooden nutmegs, too, I believe. (Laughter.) Witness, continuing, said that this practice of mixing or adulteration came to England, and the business was set up here, inferior treacle to the old-fashioned treacle being then made by the refiners or imported from America. The quantity so introduced in the so-called syrup mixing varied, according to his analyses and those of several county analysts, from 20 per cent. to 80 per cent. The addition of this starch affected the colour of the golden syrup, making it lighter. It was advantageous from the sellers' point of view, because the American treacle cost only 4s. to 5s. per cwt., while glucose was quoted on March 9th, at 7s. 6d. per cwt., and unadulterated syrup at 12s. 6d. for special, 11s. 6d. for No. 1, and 10s. 6d. for No. 2.

Mr. Scott: What is the definition of treacle in the "British Pharmacopœia"? Witness: I had studied the definitions in the various Pharmacopœias, and I find that they do not correspond with the facts. (Laughter.) Mr. Scott: Is the definition of treacle in the "British Pharmacopœia" exactly the same as your definition of golden syrup—the uncrystallised residue of the refining of cane sugar? The Recorder: But the golden syrup itself is refined by filtration? Witness: Exactly. Witness proceeded to say that when the centrifugal system of manufacture came into use, between 1856 and 1860, the words "golden syrup" came to be used as meaning the lighter forms of treacle.

Mr. Scott contended that the term golden syrup in the course of time came to be applied to several different species of syrups, and was a generic term. The only difference between common treacle and golden syrup was that the latter was of a lighter colour. The Recorder: But I understand that you gain a good deal by calling this mixture golden syrup. Mr. Scott: We gain nothing, your honour. The handbills before you came into existence for the purpose of guarding retailers against prosecutions, and we have now come here to protest against a conviction in an inferior court.

Witness said that the centrifugal machine separated or got rid of the crystals which had been formed in the treatment of the sugar. The Recorder suggested that these details were unnecessary for the purposes of the appeal, as they were not trying a patent cause. The Witness said that fifteen years ago the invention of starch sugar prevented the crystals from grain-ing, and 20 per cent. of the glucose was sufficient for this purpose. The practice of adding glucose became common between 1885 and 1891, and there were no prosecutions. The mixture was still called golden syrup, though not in all cases, for some was called "amber" syrup and some "table" syrup.

Mr. Scott stated that the circulars came into existence for the purpose of telling retailers how to avoid sugar prosecutions. The Recorder: The intimation is to the effect that "you are liable unless you follow our directions." Mr. Scott: The convictions have been obtained on the presumption that golden syrup had only one meaning—a good class of treacle, and did not include such a syrup as the sample before you.

The Recorder said it was quite clear that an article named golden syrup was known and was asked for. It might be lighter or darker, but it should not be starch glucose. If they added glucose they must say so, and that the article was not golden syrup. Mr. Scott replied that Messrs. Macfie understood that golden syrup included a syrup mixed with glucose, and that the term

was not restricted in any way to the one uncrystallisable article but included the by-products. They claimed that they were entitled to sell as golden syrup a mixture containing both articles. The Recorder replied that though they might put in 20 per cent. of glucose to liquefy the article, that surely did not justify them in putting in 70 per cent. Mr. Scott said that the case for the defence was that in course of time the meaning of the term "golden syrup" had been extended so that any quantity of starch syrup might be used in it. The Recorder: I am almost convinced that there is an article well known as golden syrup, and that if you give me 80 or 90 per cent. of glucose you are deceiving me. Mr. Scott replied that the glucose was not introduced because it paid; on the contrary, it was to the interest of the sugar refiner to sell the other article.

Witness (continuing) said that the admixture of glucose began at 20 per cent., and went on to 30 per cent. and 40 per cent., and then on to 80 per cent., at which point the law interfered. He might say that one result of the mixture was to lighten the colour of the syrup, and another to cover the salty taste of the low-class treacle used. The demand for the lighter article increased, because the grocer sold little or nothing else. The Recorder: If the public had known they would not have gone on buying it. Mr. Scott: If you mix invert sugar with treacle you get a lighter sugar? Yes. The Recorder: But if so they are both sugars, and in that case we should have nothing to do with it. I do not say you are wrong in trying to convince me that golden syrup has come to be applied to a number of different things, but if I am asked to say what golden syrup is I am afraid I can only say one thing. Mr. Scott: It is a question if the term having been used so extensively cannot be so legally used. The court then adjourned.

On March 14th, Mr. Scott proceeded to state the case for the appellants. He urged that the term golden syrup was originally invented as a fancy term, and in course of time it came to include a number of different kinds of syrups, including the one before the court, which was sold all over the country as golden syrup. The popular demand for this pale yellow syrup could not be satisfied, commercially speaking, except by this particular method of mixing the starch sugar. It was no doubt true that by repeated refining the ordinary treacle could be produced in a lighter form than the ordinary dark treacle, but it could not be produced as light in colour as the public required it, and, furthermore, this was an expensive process. The syrup was also liable to grain, and was not as merchantable a commodity, and was not as satisfactory as if a certain amount of glucose was added to it. The mixture was admittedly not injurious to health, and in the words of the Act the added substance was required for preparation of the article in a state fit for consumption. The addition was also not a fraudulent one to increase the bulk of the article or to conceal an inferior quality. There had been no evidence that the treacle in the sample before the court was not of the very best quality. The Recorder: We are told that the glucose was added to conceal the inferior quality of the golden syrup. Mr. Scott: If I am right in my contention that the mixture is golden syrup, then the customer gets what he demands. The Recorder: That golden syrup means an adulterated article. Mr. Scott: Not an adulterated article, your honour, but a mixture. The Recorder: I mean by adulteration that the article has been lowered to increase the profits of the maker. Mr. Scott: But it does not increase their profits, as the pure treacle syrup is a cheaper article than the syrup made by the addition of glucose. The Recorder replied that evidence had been given to the effect that the value of the syrup was 12s. 6d. per cwt., of the glucose 7s. 6d., and of the baser American treacle 5s. 6d. Mr. Scott explained that the figures given by Mr. Stein were based on the presumption that the syrup was made from the pure cane sugar, which commanded higher prices than the sugar made from beet, palm, or maize. He would give absolute evidence that the "Triple X" treacle syrup used by Messrs. Macfie cost 7s. 3d. per cwt. The glucose used in the mixing, which was itself a costly process, cost 7s. 6d. per cwt., and the mixture was sold at 9s. 6d. per cwt. To produce the palest straw-coloured syrup it was necessary to add 70 per cent. of the starch, and this did not increase the profits of the manufacturer.

The Recorder: Then, if it produces no benefit in trade, why do they do it? Benefit in trade means profit, even if they only get rid of an article which is an encumbrance to them. Mr. Scott replied that this was not the case, for the glucose was bought for the express purpose of making this mixture. The Recorder said he would have to determine the meaning of the term "golden syrup," and also if a person got what he required when he asked for golden syrup and received this mixture. Mr. Scott said that if the term had in course of time been extended in this way it was a question of law as to what the term "golden syrup" conveyed. The Recorder replied that it was a question of fact merely as to whether the term was or was not a term well known to the trade, and whether an explanation from the purveyor was required when he sold a mixture. Mr. Scott said that the label explained, as required by Section 8, that the article was a mixture. The label was perfectly plain. The Recorder: I think it is very ingeniously drawn up. Mr. Scott said that the label explained that glucose was added in order to retard crystallisation. The Recorder: Is that the real object of



the glucose? Mr. Scott: Up to 20 per cent. it is for that purpose, and up to 70 per cent. for the purposes of colour.

The Recorder replied that there was nothing on the label about colour. It was stated that no chemicals were used in the preparation of the syrup. Was that candid? The label first said that the glucose was added to retard crystallisation, and then further on more glucose was accounted for by the statement that it was required to lengthen the period in which crystallisation would not take place. Was that candid?

Mr. Scott urged that though the label might not be explicit for other reasons it was sufficiently explicit for the purposes of this section, which required a statement to the effect that the article was a mixture, no statement as to the actual preparation being required. Messrs. Macfie had now, he might say, withdrawn that label. The question was whether Messrs. Macfie had been guilty of fraud in mixing a foreign ingredient with the natural golden syrup for the purpose of fraudulently increasing the weight or measure or concealing an inferior article.

The Recorder suggested that Mr. Scott should not introduce the question of fraud. The manufacturers had introduced this glucose for the purpose of increasing their profits. That might be a laudable thing for merchants to do, but as he might come to the conclusion that it was not justifiable it would be as well not to use the word fraud.

Mr. Scott replied that he took the words of the statute, and had no doubt that he could satisfy the court that there was no fraud in the manufacture of this mixture, for the simple reason that they made no more profit out of this article than out of the other.

The Recorder said that he could not examine the firm's books on that point.

Mr. Scott replied that he would call evidence on the point. He would now refer to the subject of the circulars before the court, and he might say at once that Messrs. Macfie were defending this case purely in the interests of the retail grocers and not in their own interests, because as a matter of fact since these syrup prosecutions began the price of natural golden syrup had gone up, and it paid infinitely better to make the pure natural syrup than the mixture, and the sugar trade were rather pleased with the prosecutions than otherwise. Still, Messrs. Macfie thought it only fair to protect the retailer who sold their mixtures, and the circulars were prepared in precisely the same spirit. Then, as now, they understood golden syrup to mean a sweet yellow sugar, prepared in many ways; but in view of the prosecutions they issued these circulars to the retailers, telling them not to sell the mixture as natural golden syrup. The circulars expressed not the real meaning of the term golden syrup, but the meaning attached to it by a certain number of petty sessional magistrates. The practice of mixing glucose with the syrup had been a universal one for fifteen years, and had been recognised by officers of health and everybody. The term golden syrup was not a specific term defined in the "Pharmacopœia," like treacle was defined; but it was a fancy trade term, and was, as a matter of fact, invented by the grandfather of Mr. Scott Macfie, whom he would now call into the box.

Mr. Scott Macfie stated that he had had ten years' experience of the technical part of sugar-refining. The American treacle at the price named by Mr. Stein would be very black, the glucose at the price he mentioned would be similar to the sample before the court, and the golden syrup would be guaranteed pure, which would give it an additional value. At the time the mixture in question was sent out from Messrs. Macfie's works the price of the natural golden syrup was 5s. 6d. per cwt., and of the glucose 7s. 6d., and the price of the two mixed was 9s. 3d. per cwt. The Recorder asked if the glucose was as sweet as the golden syrup. Witness replied that some people complained that the natural syrup was too sweet. The Recorder: In that case they could take less of it. Witness (continuing) said that there had been a demand for an increasingly pale article. There had been cases of grocers ceasing to stock the syrup mixed with glucose because of the prosecutions, but they had been compelled by their customers to restock it. The Recorder: But they would then put a fresh label on it and say it was mixed with glucose? Oh, yes. The Recorder: Would it not be simpler to say exactly what it is? Witness: We do; we call it table syrup now in consequence of the prosecutions. The Recorder remarked that margarine was sold as butter a long time before it was known as margarine. Mr. Scott ventured to say that butter was an English word having a definite meaning, and treacle was also an English word, and there was the whole case in a nutshell. The Recorder: The thing is whether golden syrup has not come to be a name also. Witness, in answer to Mr. Scott, said that the view he had always taken as to the meaning of golden syrup was that it was a generic term for any syrup of a golden colour. The term had been applied to many mixtures; his grandfather invented the term about 1840, and applied it to syrups of the better kind. There were then no syrups except treacle syrups, but the introduction of the centrifugal process left graining in the syrup. In 1885 the use of glucose was introduced into this country, and it was used to mix with syrup to prevent granulation. These mixed syrups were still used all over the country as golden syrups. The Recorder asked if 70 per cent. of glucose was required for the purposes of granulation. Witness: No; only 20 per cent. Mr. Scott: The glucose is both to prevent granulation

and to lighten the colour? Yes; and the effect of the mixture was to create a popular demand for a lighter article. The Recorder: The public might think they were getting a purified article. Witness: I do not think they thought anything about it.

The Recorder remarked that the Legislature said that a person must be given what he asked for, and though he might not himself be in favour of such legislation his duty was to expound it. If they took an article which was almost entirely glucose with just a little colouring matter added, they surely would not say that it was golden syrup? Witness replied that if it was sweetened he would say it was golden syrup, but not treacle. Five years ago the whole of the pale syrups contained glucose to the extent of from 40 per cent. to 80 per cent. Matters had changed by reason of the prosecutions. Two years ago the proportions sold were about two-thirds of the pale and one-third of the dark syrups, which were the cheapest; as a result of the prosecutions the price of the dark syrup had been raised. The Recorder: And in spite of its being raised is it still the cheaper syrup? Yes. The Recorder remarked that the descriptions at present applied to the mixture were perfectly accurate, and if they had been given before there would have been no prosecutions. In reply to Mr. Tobin, the Witness said that the term golden syrup had an elastic meaning. Where would you draw the line? Would you draw it at 99 per cent. of glucose? I would draw it at where it became unpalatable to the taste. Then your view is that the original golden syrup could cover 99 per cent. of glucose? Yes, if it is sufficiently sweet. The glucose is added to lighten the colour and diminish the sweetness? Yes. The only reason given on the label is that it retards crystallisation? We withdrew that label as we found it misleading. Anyone who knew anything of chemistry would think there was only the 20 per cent. of glucose in this mixture? Yes. Knowing that 20 per cent. was sufficient why not say that the glucose was partly to retard crystallisation, and chiefly to lighten the colour? We have withdrawn the labels in order to say so. Why not have said it at first when you drew up the label? I drew it up in a great hurry. When you first began to mix the starch did you indicate to the public that it was a mixture? No. So that from 1835 to 1898 the public had no indication that the bright yellow had been attained by this mixing. No. Why do you contend that the public acquiesced in the admixture of starch sugar when they knew nothing about it? We saw no necessity to publish the fact of its being a mixture. Other people called it table syrup and amber syrup? We did that ourselves after the prosecutions. Before the prosecutions did you mix glucose to the extent of 40 per cent. and call it amber syrup? Yes; but it was still considered golden syrup. But you did not sell it as such? It was with an idea of informing the public as to the colour. Why have you not called this by a different name? Amber is a kind of golden syrup but a considerable proportion of amber syrup is made without the addition of glucose. Until August, 1899, you intended the public to believe that only 20 per cent. of the glucose was added to, as the label says, retard granulation? The glucose question had not been brought so prominently before our minds, and the label, as I have explained, was drawn up by myself in a great hurry.

Colonel William Macfie, C.B., a member of the firm of Messrs. Macfie and Sons, confirmed the evidence of the previous witness. It was a fact that for about fifteen years the term golden syrup had been used to describe an article made partly from treacle and partly from glucose, and also a syrup made partly from treacle and partly from invert sugar. So far as he knew there was no other commercial way of preparing the mixture. Cross-examined by Mr. Tobin: You can get the pale colour by filtration, which is costly? Yes. The cheaper way is mixing? Yes. Do you see any great objection to calling this mixture by some modified name when you have taken away 70 per cent. of what your father described as golden syrup? When you came to 40 per cent. you thought an alteration to amber desirable; why not a change in this case? Did you think golden syrup a better name? I do not think the name had anything to do with it. Why stick to the good old name for the largest admixture of glucose? I should be prepared to call the amber syrup golden syrup.

Professor Charles S. Sherrington, M.D., M.R.C.S., L.R.C.P., F.R.S., Professor of Physiology at University College, Liverpool, said he had made a special study of the processes of digestion. Glucose syrup, as had been stated, was not injurious; it was also very highly nutritious and easily digested. It bore favourable comparison with the ordinary treacle syrup, as it contained larger quantities of equally nutritive material. The nutritive quality of maize glucose was also extremely high and the substance was easily digested, and it compared favourably with the specimens of ordinary modern pure golden syrup. The Recorder: You call it modern golden syrup, and I think that is what we are fighting about. Is the glucose syrup as nutritious as the other? Witness: Glucose syrup surpasses the golden syrup in my judgment. It contains larger quantities of sugar and dextrine. The Recorder: Does it contain more sugar? No. Mr. Tobin asked if the witness agreed with Mr. Stein and Mr. Macfie that glucose possessed about a third of the sweetening quality of golden syrup. Witness: I should say that is an exaggerated estimate. The old-fashioned syrup is perhaps twice as sweet as the other.

The Recorder in his judgment said:—He had been very anxious indeed about this case, which concerned a highly respectable firm. The question he had to consider was whether the term



golden syrup had attained in the general uninstructed view of the public a certain force and value, and he was bound to say that he thought it had. He did not mean to say that this would cover degrees of sweetness or of colour, but the general idea was that the term golden syrup conveyed to everyone that it was in some form a derivation from sugar as usually implied, and that when a manufacturer began to sell something which was not within that idea of the public he was bound to say that he had now added 70 per cent. of something else. He had not now a case before him of an appeal against conviction where 5 per cent. of glucose had been used as colouring matter to imitate golden syrup and be sold as such. Here 70 per cent. of glucose had been added, and the mixture sold as golden syrup. There was a popular and fairly defined article of commerce known as golden syrup, but the moment they changed that by an extravagant mixture of something else they were bound to inform the public of it in a candid way, so that they would not be misled. He conceived there must be a motive in this matter, and he looked to see what the motive was. The motive, no doubt, was to sell an article which recommended itself to the public, and at a price which yielded a profit to the manufacturer. What was the motive of mixing glucose? It was to comply with the desire of the public for a pale yellow syrup. If the public were informed that the quality of the article was being lessened to meet their desire as to colour it would be all right, but otherwise they were failing to give them the article they required, and he believed that if they were informed as to the mixture they would cease to demand it in such large quantities. He said nothing against either the defendant in this case or against Messrs. Macfie; no doubt they had done what they thought was right. But in administering the Act of Parliament it was necessary to adhere as closely as possible by the application of one's own intelligence to the wording of the Act to see if the case before them was one that came within the statute. Having found that there was a substance and quality of an article generally known as golden syrup the question was whether the syrup in this case had been sold to the prejudice of the purchaser. He found that it was so sold, inasmuch as the purchaser did not get what he asked for when the article supplied to him was mixed in this way. Then he had to see if the other clauses of the Act relieved the person selling. He did not find that the added glucose was required in the preparation to fit the article for carriage or consumption, and so he took it that it was intended to increase the bulk or to conceal inferior quality. He would not specify which, but in any case the public were induced to accept an article of commerce which was not what it pretended to be; and so, without laying stress on such words as fraud, it was sufficient to say that the manufacturer found it to his interest to put the article on the market, and the retailer found it to his interest to sell it and run the risk of prosecution. As to there being a label of such a character which relieved them from conviction under another section, he might say that the label was not sufficiently candid, and Messrs. Macfie had felt that themselves and had withdrawn it recently. There could not be more justification than the admission of Mr. Macfie himself, and it was clear that the label did not relieve him, being not of a sufficiently candid nature to inform the purchaser. They should have stated in their label that because the public desired to have a pale golden syrup it was necessary for them to put in 70 per cent. or 80 per cent. of another substance which they thought equally nutritious and wholesome, and they asked the public to take the article from them on that footing. They did not state this, but they stated that no chemical had been used, and that to lengthen the time the syrup would remain clear additional glucose had been used. They were informed that 20 per cent. was sufficient, and whether or not the other 50 per cent. was put in for the advantage of the manufacturer it was misleading the public. He was bound to confirm the conviction of the court below, and he did so with costs.

Mr. Scott asked his honour to state a case on the question of law as to the meaning of the term golden syrup.

The Recorder replied that he found as a fact that golden syrup was a well-known name given to a certain article, and upon that he had based his verdict.

Mr. Scott urged that, assuming golden syrup was what the learned Recorder said, the sale of this article did not come within the meaning of the section.

The Recorder replied that the difficulty might be met by calling the article glucose or some other name.

Mr. Scott contended that one section under which these proceedings had been taken was as to selling for profit an article the bulk, weight, or measure of which had been fraudulently increased.

The Recorder answered that that was a question of fact, not of law. He said that the addition was to increase the bulk, weight, or measure, and that it concealed an inferior quality. If Mr. Scott wished him to find that the addition was fraudulent he would be obliged to do so, although he did not wish to do that. So long as they did not deceive the public they could do what they had been doing, but when they deceived the public they were fraudulently increasing the bulk, weight, or measure in the words of the section. He could now only congratulate Mr. Scott upon having so ably fought against his (the Recorder's) inclination in the matter for so long a time.

**GOLDEN SYRUP PROSECUTIONS.**—William Braidwood, dairyman and grocer, Victoria Gardens, Rutherglen, admitted, before Sheriff Boyd, having contravened the Foods and Drugs Acts in respect of having sold to a sanitary inspector a 2lb. tin of golden syrup which was not of the nature and substance demanded, inasmuch as it contained 70 per cent. of starch glucose, extraneous to syrup. Mr. Stevenson, who made a statement in behalf of the respondent, said that his client had been furnished by his wholesale firm with the necessary labels for fixing upon the tins. These he had instructed his shop assistants to put on the tins, but because of the nature of the gum used, they had not adhered to two of the tins out of a dozen that still remained in the shop at the time of the inspector's call. One of these two the inspector happened to be supplied with, and thus the prosecution came about. Mr. Brander, deputy-fiscal, who prosecuted, said that there was no evidence of a label ever having been on the tin supplied. The Sheriff imposed a penalty of £5, inclusive of £2 expenses. The respondent must have been fully aware of the prosecution conducted in that court some time ago, when it was decided that it was unlawful to dispose of commodities such as golden syrup without acquainting the purchaser that it contained glucose. He should not have neglected the warning then given at that prosecution.

At Ton-Pentre, on March 12th, David M. Williams, a Tony-pandy grocer, was charged with a breach of the Food and Drugs Act on February 8th. Superintendent Cole deposed to having purchased a tin of golden syrup, at defendant's shop, and paid sixpence for it. The analyst's report showed that it contained 80 per cent. of glucose syrup and only 20 per cent. of the genuine cane sugar syrup. Defendant produced another tin, and said he sold it to the superintendent as he received it from the firm. The syrup was called the "Tip-top" brand, and supplied by a Glasgow firm. The tin was from an old stock. The Stipendiary remarked that defendant could possibly get something from the firm. He would be fined 1s. and costs—£1 9s.

**BAKING POWDER PROSECUTIONS.**—Arthur W. Burson, grocer, of Bridge Street, Swindon, trading as Freeth & Son, was charged at Swindon, on March 15th, with selling three packets of baking powder, which contained 20 per cent. of alum, on February 2nd. Mr. H. Bevir prosecuted on behalf of the County Council, and the defendant was represented by Mr. A. E. Withy. In opening the case, Mr. Bevir said it was taken under section 3 of the Food and Drugs Act, and was a section under which the Bench had not previously had to deal. It was somewhat different to section 6, under which so many prosecutions had been taken. It was a section which rendered it penal to mix with any article of food an ingredient which rendered that article injurious to health. Overwhelming medical evidence could be adduced to prove that alum was injurious. This order concerning baking powder and alum receiving Royal Sanction last August, therefore he contended the dealers had ample opportunity to put themselves right. Mr. Sam Smith, Inspector of Food and Drugs, gave evidence as to purchasing the sample from the defendant, and submitting it for analysis. This showed that the sample submitted contained at least 20 per cent. of alum, 14 per cent. bicarbonate of soda, and 65 per cent. of farinaceous matter. By Mr. Withy: He had never given notice to the defendant about the change in the Act, as he was not bound to do so. Dr. Bernard Dyer gave evidence to the effect that he had examined the sample and gave the above certificate. The cost of alum was very slight, whereas the proper ingredient—tartaric acid—was very expensive. Dr. Tubb Thomas, the Wilts County Council Medical Officer, gave evidence concerning the effect of alum on the human system, remarking that its continual use was really dangerous. Mr. Withy, in defence, pointed out that notice had not been given by the County Council, and asked for a nominal penalty. The Bench decided to fine defendant 1s. and costs.—Edward J. Nation, Redcross Works, St. Phillips, Bristol, was then charged with applying a false trade description to five gross packets of baking powder, delivered to A. W. Burson, grocer, of Swindon, in August last. Mr. Withy defended, and pleaded not guilty. Mr. Bevir, in opening, pointed out the serious nature of the case, which showed a serious breach of the Merchandise Marks Act. The description was false when it said that it was a preparation to prevent indigestion. He called Arthur William Burson, who said that in August, 1899, he purchased five gross of baking powder from the defendant, and the three packets sold to the Inspector in February last were from the consignment. He had sold nearly four gross of the consignment, the remainder being packed ready to be returned. Dr. Bernard Dyer said he analysed a sample of this baking powder, and found it to contain at least one-fifth part alum. That quantity was injurious to health. Alum did not prevent indigestion, but on the contrary caused it. The description on the label was incorrect and if the preparation was used it was likely to cause serious indigestion. Dr. Tubb Thomas confirmed this evidence, and said that the continued use of this powder would be very serious. It was absolutely incorrect to say that the preparation was a preventative of indigestion, and he considered it to be a very harmful preparation to be sold. Mr. Withy agreed that the description was merely a commercial "puffery," which was seen in hundreds of advertisements every day. He asked them to treat it as such, and not as part of the trade description. The words complained of were "Nation's American Baking Powder. This is an alum preparation which



prevents indigestion." The Bench retired for consultation, and on their return the Chairman said they had carefully considered the matter, and did not think they were justified in convicting. (They believed a gross fraud had been committed, and as they were unable to touch the wholesale man they should increase the fine on the retailer in the previous case (Mr. Burson) to £1.—Elizabeth Carter, grocer, of Stratton, was summoned for selling four packets of baking powder, mixed with an ingredient, rendering the same injurious to health, viz., with at least 20 per cent. of alum, at Stratton, on February 2nd. Mr. Withy defended. Sam Smith proved taking the samples, and the certificate showed that there were 22 parts of alum. Fined 5s. and costs.—Louisa Hollyoake, grocer, of Stratton, was similarly summoned with respect to four packets of baking powder bought on January 30th. Mr. Smith proved purchase, and said it contained 19 parts of alum. The Bench deferred judgment till April 9th, as defendant was unable to be present.—Defendant was then similarly summoned with respect to three packets of egg powder, purchased on January 30th. Mr. Smith proved purchasing the powder, and forwarding a sample to Dr. Dyer, who certified that at least 18 parts were alum. This case was also adjourned.—William Bick, grocer, of Malmesbury, was similarly summoned with respect to three packets of baking powder, purchased on February 8th. Mr. Smith stated that Dr. Dyer's certificate showed that it contained at least 20 parts of alum. Fined 10s. and costs.

At Lindsey Petty Sessions, Lincoln, on March 16th, Thomas Bell, grocer, Torksey, was summoned for selling baking powder to the prejudice of the purchaser. Supt. Dain proved the case, and explained that the proceedings were taken under the New Food and Drugs Act. The certificate of analysis proved that the baking powder purchased at defendant's shop contained 18 per cent. of alum, which was injurious to health. Fined 1s., and 4s. 6d. costs. Mrs. Bell appeared and said the baking powder was exactly the same as purchased from the wholesale merchant.

**WEIGHTS AND MEASURES PROSECUTIONS.**—Notwithstanding the high prices at present charged for coal, there is no guarantee that proper weight is to be obtained when purchasing in small quantities, as has to be done by the working class, a fact which was clearly proved before the Stipendiary at the Sheffield Police Court on March 15th, by Mr. G. W. Catchpole, chief inspector of weights and measures, when twelve persons were fined, the majority being for exposing coal for sale in wheelbarrows, which, on being re-weighed, were very much less in quantity than that represented to the customer.—Under section 29 of the Weights and Measures Act, 1889, which gives an officer power to weigh coal in the course of delivery, Chief Inspector Catchpole visited the premises of Richard Bunting, 56, Hampton Street, finding 12 wheelbarrows and sacks of coal, varying from 7½ lbs. and 1½ lbs. short of the quantity represented to the customer, in addition to which his scales were 1 lb. against the purchaser; he was fined £2.—James Allen, Matthew Street, was fined 30s. for having nine wheelbarrows varying from ½ lb. to 3½ lbs. short, in addition to having unjust scales. A humorous defence was made by Isaac Simmonite, of Park Hill Lane, who was charged with having a scale 1 lb. 2 oz. against the purchaser, and barrows of coal being 2½ lbs. and 3 lbs. 14 oz. short of the quantity represented. He pleaded wet weather as the cause of the scales' inaccuracy (making them heavier), and the coal in the barrows light. He failed to satisfy the Stipendiary, who fined him 30s.—William Stevens, 10, Wheeldon Street, was fined 20s. for having his scales 3 lbs. against the purchaser.—Richard James Stimpson, Broad Lane; John D. Fox, Langsett Road; Charles Hopkinson, Dun Lane; and William Sprywell, Spital Street, were each ordered to pay 20s. for having coal in barrows in less quantities than that represented.—Mary Riley, Hollis Croft, and John Simmonite, Weigh Lane, were each fined 17s. 6d. for similar offences.—William Armin, coal dealer, Slinn Street, was fined 17s. 6d. for selling to Inspector Turton ½ cwt. of coal, which, no being re-weighed, was 1½ lbs. short. From the evidence of the Inspector, he visited the coal-place in consequence of complaints he had received. Armin's defence was some coal must have fallen or been taken off the barrow.—Joseph Heald, Pond Street, was fined 25s. for selling to Mrs. Ashton ¾ cwt. of coal, at the same time having concealed under the scoop of his scale a piece of stone weighing over 2 lbs. Police-constable Oliver corroborated.—Cuthbert Parker, grocer, Fitzwilliam Street, was ordered to pay 20s., including costs, for having in his possession a 7 lb. weight 6 ozs. 11 drms. light, and a 7 lb. weight 10 drms. light. Inspector Turton proved finding them with the other weights near the scale, but witness stated he never used them, but for door posts. The Magistrate, in fining him 20s., cautioned him to discontinue the bad practice of using weights for such a purpose.

At Nottingham, on March 15th, the Star Tea Company were summoned for having in their possession, on March 6th, eleven weights which were unjust, at their shop in Main Street, Bulwell. The summons was answered by Mr. Frederick Moffat, the branch manager. Mr. H. W. Day (of the Town Clerk's department) prosecuted, and Mr. H. B. Clayton appeared for the defence. Mr. Day said when Inspector Willbond called at the premises of the defendants and examined the weights he found a 4 lb. weight 1½ drachms light, one 2 lb. weight one drachm light, two 1 lb. weights a little over half a drachm light, and seven other weights somewhat light. Of

course, in a large trading company like this having a large number of weights which were all short, it was a somewhat serious matter, but at the same time he did not suggest there had been deliberate fraud. In this case the weights were of brass, and it was quite possible, after a length of time, with continual polishing the weights may have lost weight. Mr. Willbond, inspector of weights and measures, proved these statements by evidence. Mr. Clayton explained that the defendants had 130 shops in the country, and this was the first summons that had ever been issued against them. The Bench would agree that although technically his clients were liable, and guilty of this offence, there was a good deal to be said by way of explanation. In every one of the defendants' shops there was a set of rules, No. 4 of which stated that all scales should be examined and tested periodically. These weights should have been, according to the rules of the company, taken to be tested but the manager had failed in his duty in this respect, and by constant rubbing in polishing these slight deficiencies had occurred. The Bench imposed a fine of 20s.—John Thomas Harris, baker, 28, Haywood Street, Sneinton; William Julian, provision dealer, 5, Henry Street; Alfred Wilson, provision dealer, 20, Elton Street, was summoned for selling bread otherwise than by weight on March 8th. The deficiencies in the loaves purchased at the instigation of Mr. Holdroyd, inspector of weights and measures, ranged from 1½ oz. to 4½ oz. In opening the case, Mr. H. W. Day said these cases were proceeded with in the public interest. Harris, against whom there were two charges, was fined 40s.; and Julian and Wilson 20s. each.—Henry Chaplin, fishmonger, 10, Quarry Road, was fined 20s. for having in use for trade, on March 6th, an unjust spring balance, and the scale was ordered to be forfeited.—John Miller, pork butcher, 16, Quarry Road, Bulwell, was fined 30s. for having in use for trade seven weights which were unjust. The cases were proved by Inspector Willbond.

**MILK PROSECUTIONS.—IMPORTANT DECISION UNDER THE NEW ACT.**—At Bow-Street, on March 14th, George Porteous Johnston, of 249, High Holborn, appeared, before Mr. DeRutzen, to a summons charging him with selling milk from which at least 10 per cent. of cream had been abstracted by skimming or otherwise. Mr. H. C. Jones supported the summons on behalf of the St. Giles's Board of Works. Mr. Ricketts defended. Mr. Jones stated that the defendant kept a shop in High Holborn similar to one of Lockhart's establishments. He sold tea and coffee in which milk was used; and he also vended glasses of milk. On a recent occasion Mr. Bond, an inspector in the employment of the St. Giles's Board of Works, purchased a pennyworth of milk at the defendant's establishment, from which at least 10 per cent. of fat had been abstracted. It was only fair to state that there was posted up in the shop a notice saying, "The proprietors purchase all milk under a warranty, and take all precautions to secure its purity; but they do not guarantee it to be pure or to contain all its cream (in accordance with the Sale of Food and Drugs Act), and therefore do not sell it as such." He understood from his friend, Mr. Ricketts, that he relied upon this notice and the decided case of "Spiers and Pond and Bennett," where it was proved that a somewhat similar notice was exhibited. He (Mr. Jones), however, relied in the present instance on the 11th section of the Sale of Food and Drugs Act, 1891, where it was stated that "Every tin or other receptacle containing condensed, separated, or skimmed milk must bear a label clearly visible to the purchaser, on which the words 'Machine Skimmed Milk' or 'Skimmed Milk,' as the case may require, are printed in large or legible type," the penalty for non-compliance being a fine not exceeding £10. It was evident, said Mr. Jones, that this requirement had not been complied with in the present case. Mr. Ricketts contended that the section referred to applied only to condensed milk. Inspector Bond said he had seen the notice referred to, and taken a copy of it, his attention having been previously called to it. Mr. DeRutzen said that Lord Chief Justice Russell seemed to have had some little difficulty in arriving at a conclusion in the Spiers and Pond case; but his judgment was perfectly clear, and, being guided by that, he must certainly dismiss the present case. Mr. Jones: The Sale of Food and Drugs Act seems as difficult to construe as the old Act. On the application of Mr. Ricketts, the defendant was allowed £1 1s. costs. Mr. DeRutzen intimating in answer to Mr. Jones that he would grant a case is applied to.—At the same court, Gattano Pedrini, restaurant-keeper, 3, Great-trinostile, High Holborn, was summoned for selling milk from which at least 14.6 of fat had been abstracted. Mr. H. C. Jones supported the summons on behalf of the St. Giles's Board of Works.—The defendant contended that he sold the milk in the same state in which he received it. No notice had been posted up (as in the previous case), and the defendant was fined 40s. and costs.

At West Ham Police Court, on March 14th, before Mr. Baggallay, Charles Taylor, a milk carrier, of 18, Leyes Road, Custom House, was summoned for selling milk which, on analysis, was found to be adulterated with 7 per cent. of added water. Dr. C. Sanders, medical officer of health for West Ham, said a sample was taken from the defendant in Jedburgh Road, Plaistow, and subsequently the company by whom Taylor was employed was communicated with. They took samples of all milk given to their men and when they got the Inspector's sample, they took a sample of the milk still in Taylor's can. All



three samples were then analysed, the result showing that the defendant took out genuine new milk, but that which he brought back was adulterated. Evidence was called as to the taking of the different samples, and it was admitted that the sample taken of the milk sent out was not sealed up until after Taylor returned with the Inspector's sample. The defendant admitted on the evidence of the certificates that the milk he sold was adulterated, but he solemnly declared that he had not watered it. He suggested that the fresh milk of that morning had been added to it some of the previous day's unsold milk. The sample taken was not taken in his presence. Mr. Baggallay said that there was no doubt as to the milk the defendant sold being adulterated, and so far as he could judge the company did their best to find in every case where any fault lay. The milk he brought back was adulterated, though the sample taken earlier was not, and the strong presumption was that the defendant had tampered with the milk himself. He must pay a fine of £3 and £1 16s. costs. Annie Kidd, of 12, Denmark Street, Plaistow, was summoned at West Ham for selling milk adulterated with 32 per cent. of added water. The defendant said she was very sorry, but didn't know how it happened. Dr. Saunders: Only a little is sold in the shop. If anyone comes in for milk it is manufactured on the premises, I suppose? Mr. Baggallay: £10 and 16s. 6d. costs. At the same court, Joshua Harradine, of 14, Maryland Street, Stratford, was similarly summoned, the adulteration being 16 per cent. of water. The defendant pleaded guilty and said he was not at home on the day in question. He was fined £5 and 17s. 6d. costs. Edward Hyde, a milk dealer, of 8, King Street, Barking Road, was, at the same court, summoned for selling milk from which one-third of its cream had been abstracted without disclosing the alteration. The defendant denied tampering with the milk, saying he sold it just as he had bought it. He was fined £2 and £1 ls. costs.

At Leeds, on March 16th, John William Doughty, farmer and wholesale milk dealer, lately carrying on business at Blacksmith Farm, Cookridge, near Leeds, was fined £10 for having supplied milk under contract to a dealer in Leeds, which was certified to contain  $5\frac{1}{2}$  per cent. of added water. Defendant was £5 for a similar offence in February last. Mr. Jolliffe, Deputy Town Clerk, prosecuted. Inspector Walker proved the case.

At Blyth Petty Sessions, Robert Bowman, milk dealer, Mill Bank, Bedlington, was charged with selling milk adulterated with 18·66 per cent. of added water at Bedlington Station on February 9th. Sergeant Tough deposed to seeing defendant's milk cart standing outside a public house door on the date mentioned. He called defendant out, and asked if the vehicle was his. Defendant replied that it was, and witness then asked to be supplied with a quart of milk. Upon taking the lid off one of the cans, defendant said there was only three spoonfuls left. Witness examined the other tins and found one contained about three gallons. Defendant said he thought he had sold it all. Witness then purchased a quart of milk and divided it into three parts. One portion was sent to the county analyst and the certificate showed 19·66 of added water. The Bench found the case proved, and defendant, who did not appear, was fined £2 and £1 2s. costs.

At Great Yarmouth, on March 14th, John T. Salmon, milk-seller, 4, Queen's Road, was summoned for selling adulterated milk. Through the instrumentality of one Elizabeth Miller, the police obtained a sample of milk from defendant, and submitted it to the public analyst. The latter found in it 12 per cent. of added water. The case for the defendant, submitted by Mr. Wiltshire, demonstrated the hard position in which retail milk-shellers are placed owing to the fact that, though they are compelled to have a written guarantee for their customers, they do not at the same time receive an equal guarantee from the wholesale dealer, whence the milk is obtained. For the past ten years defendant had been obtaining milk from Mr. R. Wright, of Southtown, and had sold it exactly as received. He had inquired of several wholesale dealers as to whether, supposing he placed his custom with them, they would give him a guarantee, but all had refused. The Bench inflicted a fine of 20s., or one month. The circumstances of the case against Maria Godbold, milk-seller, 134, Blackfriar's Road, were somewhat similar. Defendant's daughter said she purchased the milk from Mr. Butler, of Runham, Vauxhall. It was not adulterated by anyone connected with the defendant. The Bench inflicted a fine of 20s., or one month.

**MAGNESIA ADULTERATION PROSECUTION.** At Swindon, on March 15th, Arthur Willis, grocer, of Highworth, was summoned for selling three packets of magnesia, which were not of the nature demanded, on January 30th. Mr. Bevir prosecuted, and Mr. Withy defended. Evidence showed that it was not pure magnesia, but magnesia carbonate, which was about half as efficacious as the pure. On defendant undertaking to destroy his stock, he was fined 1s. and costs.

**SPIRIT ADULTERATION PROSECUTIONS.—A STRANGE CASE.**—At the Durham County Police Court on Wednesday.—Rev. W. Greenwell presiding—James Conway, landlord of the

Littleburn Hotel, Langley Moor, was charged under the Food and Drugs Act with selling whisky—which was a mixture of whisky and brandy—38·18 degrees under proof. Mr. B. Scott-Elder, chief inspector of weights and measures for the county, prosecuted, and Mr. J. Mawson defended. The Chairman: What is the name of this liquor? Mr. B. Scott-Elder: I don't know. The county analyst has not a name for it (laughter). We have never had a mixture of this kind before. In this case defendant is the landlord of the largest hotel in the district. He exposed for sale in bottles spirit which he himself had mixed and sold to the public, and which he said he did not know the name of. The certificate of the county analyst shows it is adulterated with water to the extent of 38·18 per cent. Defendant told me it was weak brandy, and sold for the purpose of supplying the people with it who did not want to pay a large price for pure brandy. George Wilson, assistant with Mr. Scott-Elder, said that on February 1st, he went into the Littleburn Hotel, asked for a pint of whisky. Defendant was in the bar, and after he had given the order he got some steps, and proceeded to go up them to some kegs. Witness saw some bottles behind the counter, and he asked for a pint from one of the bottles. Defendant supplied him with a pint, for which he paid 2s. Defendant said he thought it was brandy. The price of brandy would have been 4s. By Mr. Mawson: Defendant did not tell him that he went up the steps to turn the taps on. He did not tell him it was brandy. He said he did not know whether it was whisky or brandy. That was after he had paid for the whisky. The price was very low for brandy. Mr. Scott-Elder said he went into the hotel and found defendant on the step ladder. He asked him what he was doing there, and he replied that he was getting some whisky. Witness asked him if he always went up a ladder for a glass of whisky, to which he made no reply. Defendant, on being asked what the bottles he pointed to behind the counter contained, replied that he thought it was rum, but he was not quite sure. He further asked him if one of the bottles pointed out to him contained whisky. Defendant asked him to try it, but he contented himself with smelling it. It smelt of nothing (laughter). Defendant took a drink, and spat it out. He could not say what they called the mixture. Witness gave defendant the assurance that if it was pure whisky or pure brandy he would hear nothing further about it. In cross-examination, witness said the conversation took place before the purchase was completed. The Chairman: Wilson asked for whisky, and was supplied with this mixture. Mr. Scott-Elder said he was going to admit that defendant did not want to sell the spirit he had in the bottles because he knew he (witness) was an inspector. It was exposed for sale. Mr. Mawson: He distinctly said it was not whisky, and denies that it was exposed for sale. I submit that Mr. Elder's evidence puts him out of court, because the conversation took place before the purchase had been completed. Defendant was asked at Christmas time if he could make a bottle of weak brandy at 3s., and he did so, and these bottles were not standing where he draws the whisky. He had been an innkeeper for eighteen years, and this is the first sample with which fault has been found. I submit he did not deliberately sell whisky to the prejudice of the purchaser. The Chairman: You contend that publicans can sell bottles of spirit adulterated with water to such a large extent? Mr. Mawson: Yes, if it is made up for customers. Defendant was called, and, in answer to Mr. Mawson, said he told Wilson that what he was supplied with was reduced brandy. Cross-examined, he denied that there was any whisky in the bottle. Mr. Elder: Can you sell reduced brandy 38 degrees under proof at 2s.? Defendant: Yes. The Chairman: The case is a difficult one, and we don't see our way to convict. It is an extremely suspicious case, in the highest degree suspicious, but we are not satisfied that the offence was committed. We advise defendant to be careful in the future to separate the water and spirit. Mr. Mawson said he was sorry the last remark had been made, as he defended the case on its merits. The Chairman: I have strong views on the question. Conway was then charged with selling whisky which was 29·31 degrees under proof. Mr. Elder said that when he took the samples he promised defendant that if they were pure he would hear nothing further about them. In order to keep his word he had brought this second charge against him, the whisky purchased being 29·31 degrees under proof. Mr. Mawson said the whisky was 4·31 degrees beyond what was allowed. In this case defendant made the whisky up to 27, and expected the analysis would make it 26 or 27. As it was, the difference was very small. The Chairman: We decide not to convict in this case. Mr. Elder asked for the costs to be remitted. The Bench consented.—John Edward, of the Clarence Inn, Coxhoe, was charged with selling rum which was 31·08 under proof, on the 9th February. Evidence having been given, it was stated that this was the first complaint against the house. A fine of £1 and costs was imposed.

**BAD MEAT PROSECUTIONS.**—At Hull Police Court, on March 15th, A. Dixon living at Fitting, was summoned for exposing for sale in the Tivoli Hotel yard, Mytongate, four quarters of beef, intended for the food of man, but which were unfit for human consumption. The meat was seized by Inspector Cook, and was condemned by Mr. Twiss. Mr. Holdich appeared for the defendant. Inspector Cook and Mr. Burkett gave evidence in support of the summons, and the defendant was fined £10 and costs.



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## Food and Sanitation.

SATURDAY, MARCH, 31, 1900.

### Some Instructive Figures Towards a Milk Standard.

ISLINGTON continues its good work of securing pure milk for the inhabitants of that large parish, and the figures for the last quarter of 1899 just issued by Dr. A. E. Harris, Medical Officer of Health, are a crushing answer to the Farmers' Association

which have recently been asserting that a 3 per cent. standard was too high.

Dr. Harris clearly shows that it is too low.

" 128 samples were submitted for analysis, 8 of which were adulterated. Of these milks 49 were bought on Sundays, 49 on week-days, and 30 were procured in course of transit at the Great Northern Railway Station at Finsbury Park. All the Railway samples were pure while 3 of those purchased on Sundays, and 5 of those bought on week-days were adulterated.

The results of the analyses were as follows :—

	No. Genuine taken.	Adul- trated.	Per-centage Adulter'd
Samples taken on Sundays	49	46	3 6.1
Samples taken on week-days	49	44	5 10.2
Samples taken at Finsbury Park Station...	30	30	0 0.0
	128	120	8 6.2

	No. of Samples.	Solids not fat.	Fat.	Total Solids.
Milk procured in transit at Finsbury Park Station	30	8.85	3.91	12.76
Milks taken on Sundays	49	8.69	3.42	12.41
Milks taken on week-days	49	8.61	3.57	12.18
Somerset House Standard	...	8.50	3.00	11.50

An examination of these figures shows that the milk as it arrives at Finsbury Park Station is of good quality, but that before it reaches the public it has been reduced with water, and deprived of its fat.

They also prove that even the altered standards of Somerset House is not so high as the average of any of the milks bought in Islington on Sundays or on week-days, even though in the one case 6.1 per cent. had been adulterated, and in the other 10.2 per cent."

We here see that the milk as it originally reaches the dealers has nearly 4 per cent. of cream and is afterwards adulterated until it averages 3.57 per cent. It will take a lot of special pleading on the part of swindlers to combat direct evidence like this.



## Professor M'Fadyean on Tuberculosis.

RECENTLY Professor M'Fadyean delivered a lecture in Kendal on "Tuberculosis." There was an exceedingly good attendance of medical gentlemen, veterinary surgeons, farmers, and others interested in the question. According to the report in the *Westmorland Gazette*, Professor M'Fadyean explained that, for several reasons, he would treat the subject in an elementary way, and he then dealt with the derivation of the word tuberculosis. It was noticed at one time that there was a common disease in both men and animals, in which the *post-mortem* showed in various organs of the body a number of nodular things. Tuberculosis was just another word for nodule, and hence the name. Twenty years ago it was not accurately known how the disease spread; but eighteen years ago the distinguished bacteriologist Koch turned his attention to the subject, and satisfied himself that the tubercles contained live germs, and he was able to grow that germ on artificial substances. But he not only satisfied himself of the cause of the disease; he set up another point, and that was that tuberculosis was a contagious disease—that was to say, when they had one case in man or animal there was no manner of doubt about its being connected with an antecedent case of the same disease. It was proved that they could not cultivate the germs from tuberculous cows or men unless they kept the thing at a rather high temperature—a temperature of 90 to 100 degrees. It could not, therefore, be grown outside the body, because the temperature was too low. There was what might be called the clinical evidence to prove that the disease was contagious. If they got a set of healthy animals and put some diseased ones along with them the disease would spread. From that point of view every man and every animal that was the subject of tuberculosis might be looked upon as a sort of unintentional hot-house for forcing the growth of the tubercle bacillus. But, although tuberculosis was a contagious disease, such as, for example, sheep scab, it was not contagious to the same extent.

### HOW DISEASE IS SPREAD.

Apparently the commonest way in which cattle or human beings became infected was this: An affected animal, when coughing, expelled some matter from its mouth and nose. As long as this matter was moist, it remained where it had fallen, but when it had dried up anything which it contained was left, and a healthy animal, in inhaling, might take the germ into its lungs, where it would grow. That was how the disease was spread. Some might fall on the food of the animals, and almost immediately had effect. It might attack the throat or the intestines, and those were the common ways in which the disease spread. A few years ago the orthodox belief was that the common cause was heredity, both among cattle and human beings. What was generally meant by that was that the cattle or human beings who, at any stage of their life, became affected with tuberculosis had in reality been born into the world tuberculous, because the parent was subject to the disease. There never was any respectable evidence to prove that that was the case, and at the present day bacteriologists had been driven to give up that idea. The supposed reason was that it was observed, both in men and lower animals, that in many instances, where one or the other or both parents were tuberculous, a considerable portion of their progeny also became tuberculous. It was difficult to find the germs in new-born calves. That was the direction in which proof was always wanted. He believed he was right in saying that, in the annals of human bacteriology, there were not 20 cases of tubercle in new-born infants. Of 100 calves born of infected parents, not one was found to be diseased. If they took 1000 animals that had the disease, the proportion of cases rose with the age; there were more in cows of six than three years, and very little in animals

under a year old. These facts were not reconcilable with the view that animals were born tuberculous. But when the supporters of the heredity theory admitted that they could not show the disease in the new-born calf, they held to the belief that it was there, and that it did not develop until the animal got older. That was no proof, and there was strong evidence the other way. They could take healthy young calves and try to infect them, and see if the disease lay dormant or not. That had been done, and it was found that the disease developed more quickly in the young animal than in the old. That was a strong case for holding that the majority of calves, whether born of tuberculous parents or not, were perfectly free from tuberculosis. Many of those who were obliged to abandon the view that the disease was often inherited still maintained that, while actual disease was not inherited, the predisposition was inherited; that some families, whether human or bovine, had a greater tendency to contract the disease than others. The germs were not found all over the world, but only where man or cattle had been and left them. Some cattle could resist the disease more than others, but unfortunately they did not know of any breed which was capable of a very high resisting power. There were some breeds in which it was more common than in others—in Shorthorns and Ayrshires, while in Welsh hill cattle and Scotch Highland cattle there was less tendency. But that did not prove that Shorthorns or Ayrshires were predisposed. Probably they were kept in circumstances which helped the spread of the disease. Jersey cattle were much affected by tuberculosis in this country, though in their own island they were free from it. He had known many cattle tested in Jersey with tuberculin, but he never knew one which reacted. In the Channel Islands the cattle lived in the open air, and that prevented the spread of the disease. He had now come to the most interesting part of the subject, and that was, How were they

### TO DEAL WITH THIS DISEASE?

It was possible that in the future something might be discovered which would cure or check its course, but at the present time there was no known method of curing it, and therefore, in the meantime, they must endeavour to prevent the spread of tuberculosis. The proper way to prevent the spread of the disease was to keep the healthy and unhealthy cattle separated. An animal might show none of the symptoms itself, and yet be dangerous to the other cows in the shed. Since the discovery of the tuberculin test they had been able to tell whether an animal was affected. If the animal was healthy the test appeared to have no effect, but if it was tuberculous it gave it a short attack of fever; it sent the temperature up about 4 degrees in the first few hours. When this test was first discovered, people thought that a crusade would be made against the diseased animals. But on a more extensive use they found that a large number of apparently healthy cattle reacted, some worse than others. They had no data on which to state their number in exact figures, but about 20 or 30 per cent. of the cattle in this country were subject to tuberculosis, and if all those cows were killed it would mean an enormous expense, and the farmers would have to receive some recompense for their loss. But still the owner of cattle might like to have them tested to enable him to separate them, and gradually prepare the diseased animals for the butcher. That was the direction in which efforts must be made. They must endeavour to keep the old affected cattle and the calves separate. Speaking of the importance of ventilation, the lecturer advised farmers not to stuff hay in the holes left in the walls by the architect. It was a mistake to think that cows must be kept warm if they were to give milk. Many people thought, because so much attention had been given to the



disease in animals, that they were the main cause of human consumption. Human beings were affected from cattle, but, nevertheless, there was little doubt that the common cause in man was infection from man to man, and the rules for its prevention were much the same as for cattle. There appeared to be two principal ways in which human beings could be infected from cattle. First, they might become infected from the meat. The majority of the meat free from the diseased organs was fit for food. The meat, if thoroughly cooked, would be quite harmless. The proper way to make sure of having good meat was to have it inspected at the slaughter-house before it was sold. Secondly, there was the milk. It was undoubtedly the main danger as far as the question of infection from cattle to man was concerned. But the fear of infection was not so great as formerly, for tuberculosis was on the decrease. If the cow had the disease in the lung it did not affect the milk, but if the cow had the disease in its udder the milk was excessively dangerous. Milk from a diseased udder, if injected into a guinea-pig or rabbit, would kill it, and when human beings were taking in milk from a tuberculous source a certain proportion must be contracting tuberculosis. Everyone would not die from it, because taking it through the mouth was not as bad as injecting it into the blood. But the danger from milk was reduced by the fact that probably the unhealthy milk was mixed with good milk. As it was too expensive to test every cow with tuberculin, and kill those diseased, the next best thing was to institute an inspection of the cows, and

#### HUNT FOR THE TUBERCULOUS UDDERS.

That raised the question of how to tell tuberculous udder, as there were other diseases besides that. In some cases the owner could tell if a cow was tuberculous, and sometimes the aid of a veterinary surgeon had to be called in. He would endeavour to indicate the cases in which the owner could tell for himself. If he was looking at a cow's udder, and found it swollen, and the following day it yielded milk altered in quality, and could not be carried off, that was not tuberculosis. That was a common class

of inflammation. On the other hand, if he was in the habit of going over his own cows and manipulating their udders, and found some hardening of the quarter, and noticed that, on pressure, it was not tender, and he had evidence it had come on slowly and that it got larger, then in all probability that was tuberculosis of the udder. It began slowly, often at the top. It was hardly ever painful, and apparently the milk was unaltered in quality. That was one of the dangerous things about it. When the owner was in doubt, they had two other methods not so easily applied. One was to examine the milk microscopically. If, on putting it under the microscope, they found the germs, that settled it. The germs might be there in small numbers, and it might require days to find them. But when the udder was diseased, and the conditions of the bag would not enable them to say, the milk should be examined. There was another test. That was to inject the milk into guinea-pigs or rabbits. Let them live for a month at least, or it may be longer; then kill them, and examine the place where the milk was injected. If the milk contained germs, germs would be found in the particular spot at which the milk was injected. If the milk had been taken from the cow with precaution, and the germs had not got in before being applied, the cow from which the milk came had a tuberculous udder. In his opinion, the law dealing with milch cows did not go as far as it ought to. Until less than twelve months ago they found themselves in a difficulty. They might discover a cow with tuberculosis, but they could not insist upon it being put to death. Less than twelve months ago local authorities were given the power to stop the sale of milk from a cow with a tuberculous udder. That was a step in the right direction. He thought that something more should be done for the protection of the public; for, although the bulk of the community were honest, and would not sell milk which they knew to be diseased, there were others who were not as careful as they might be, and he thought that they might make occasional inspections, and in cases of the latter kind inflict big penalties.

## Dietetic and Hygienic Notes.

### Dietetics of Bread and Butter.

DR. JOHN C. HEMMETER in the February number of the *Maryland Medical Journal* writes an interesting article concerning the composition and dietetic value of bread. Bread, he says, was first prepared by the Egyptians, then brought to Greece and Rome, and by the latter people extended to the Germanic races. It was the most widely used food of the Hebrews, who ate bread made of wheat and of barley.

"In making the bread, a little butter or lard, salt and yeast and considerable water, either by itself or in milk, are added to the flour. The yeast causes the carbohydrates (sugar, etc.) to ferment, yielding alcohol and carbonic acid in the form of gas, which makes the dough porous. In the baking, the alcohol is changed to vapor and the carbonic acid is expanded, making the bread still more porous, and both are mostly driven off. Part of the water escapes with them. The amount of sugar and other carbohydrates lost by the fermentation is not very large, generally  $1\frac{1}{2}$  to 2 per cent. of the weight of the flour used. With the increase in the proportion of water in the bread as compared with the flour, the proportion of nutriment is diminished, but the addition of shortening and salt brings up the fat and minerals in the bread, so that the proportions are larger than in the flour. In practice, 100 pounds of flour will make from 133 to 137 pounds of bread, an average being about 136 pounds.

"The oldest method to start the fermentation in dough was to add leaven to it. This is an old dough which has already become acid from fermentation, and contains not only yeast, but a large variety of bacteria, which are capable of effecting a very peculiar and characteristic acidification of the bread. Leaven has been replaced by yeast and compressed yeast. These fermenters break up the sugar of the flour into carbon dioxide and alcohol. In the dough itself a ferment is contained, called cerealine, which transforms starch into sugar, thus keeping up the fermentation. Good bread can only be obtained when the flour has a sufficient percentage of gluten. The largest part of the proteid or albuminous constituents of the wheat is contained in the so-called gluten, which is a mixture of three albuminous substances, insoluble in water. These substances are gluten fibrin, gliadin and mucedin.

"If there is a preponderance of gliadin, then the bread gluten becomes tough, and if there is a surplus of mucedin the bread gluten becomes too soft. Bread gluten causes the proper elasticity of the dough and offers resistance to the little bubbles of carbon dioxide, so that the bread can become uniformly distended and light. Unfermented bread has been recommended, because fermentation does not always progress uniformly, and much of the carbohydrates is lost during this process.

"The heat of the bake oven amounts to from 170 deg. to 210 deg. C., but the temperature in the centre of



large loaves of bread rarely exceeds 100 deg., but by this the main mass of micro-organisms of the dough is killed. All the albuminous substances of the bread, except a portion of the gliadin, are coagulated. In the fermentation of bread from 1 to 4 per cent. of the dough is split up into carbon dioxid and alcohol. The latter evaporates, so that in the completed bread not more than 0.2 per cent. of alcohol is found. When bread is kept for a while it becomes stale. This has been explained by the loss of water through evaporation, which, however, cannot be the only cause of this process, because old bread can be made fresh again by simply warming it up (Boussingault). But after the percentage of water in the bread has been reduced to 30, warming up the bread will no longer make it fresh again. A strange thing in the freshening up of stale bread by warming is the fact that it actually loses still more water. Boussingault assumed that there was a molecular change in the bread which caused its becoming dry, and Horsdorf believed that in rewarming the bread the gluten gives its water up to the hardened starch granules.

"Flour, such as is used by bakers, is now purchased in the eastern states at not over four dollars per barrel. This would make the cost of the flour in a pound of bread about one and one-half cents. Allowing one-half cent. for the shortening and salt, which is certainly very liberal, the materials for a pound of bread would cost not more than two cents. Of course, there should be added to this the cost of labour, rent, interest on investment, expense of selling, etc., to make the actual cost to the baker.

"No one can tell how long bread and butter have been used as a dietetic combination, but it is probable that the combination is very nearly as old as the use of bread alone, because butter was made from milk as early and by the same people which have been mentioned in the early preparation of bread from wheat. In his excellent physiological work, "Die Arbeit der Verdauungsdrüsen," Prof. J. P. Pawlow has shown that fats inhibit and sometimes may arrest the secretion of HCl in the stomach, but, at the same time, stimulate the secretion of the pancreas. Here the most modern physiology has given an instructive explanation of the instinct by which the human race has for ages been led to associate bread and butter. We all know that fats cannot be digested very well in an acid

medium. It is also known that carbohydrates, such as bread, which contains on an average between 50 and 60 per cent. of starchy matter, cannot be digested very well in acid medium. Fatty foods are difficult to digest, and those afflicted with weak stomachs must avoid them. If fat is present in the gastric chyme to any considerable extent it arrests the secretion of acid gastric juice in its own interest, and in that way impedes the digestion of the albuminous or proteid bodies. For that reason the combination of fatty and albuminous food is difficult of digestion, and only agrees with people who have a strong stomach and an intense appetite, the explanation being that the albuminous food requires an acid medium for its solution in the stomach, and actually stimulates the acid secretion (Hemmeter, "Diseases of the Stomach," second edition, article on "Hyperacidity"), whereas the fats require an alkaline medium, and depress the acid secretion. The combination of bread and butter is not difficult of digestion, because the bread contains comparatively little proteid or albuminous matters— from 6 to 12 per cent. on the average—and, therefore, it requires little acid for its digestion; hence the fat (butter), in depressing the acid secretion favours the transformation of the large percentage of starch in the bread into maltose and dextrose. On the other hand, the fat is a stimulant to the secretion of the pancreas, and thus an abundance of ferments is secreted into the duodenum and thus secures the digestion of the starch as well as the albumen and fat. Fat taken alone is, as a rule, not indigestible, because it does not interfere in that case with the digestion of other substances. There is no conflict between the various chemical constituents of the food in this instance.

"In those cases in which an excessive activity of the gastric glands has led to hyperacidity, fat should be used as a dietetic medication, because it depresses the secretion of the acid. The scientific explanation of the synergistic action of bread and butter is one of the first steps in scientific dietetics. As scientific men occupy themselves more and more with such questions we hope that dietetics may be lifted from empiricism to a more exact science. It is to be regretted that comparatively few men with scientifically trained minds have occupied themselves with dietetic questions in the laboratories. There can be no more promising and useful field of work. The harvest is plenteous, but the labourers are few."

## Official Reports and Notes.

### Registration of Margarine Manufacturers and Dealers.

THE Local Government Board have issued the following order:—

To the owners and occupiers for the time being of manufactories of, and to the wholesale dealers in, margarine or margarine-cheese in England and Wales:—

To the several local authorities under the Margarine Act, 1887, and the Sale of Food and Drugs Act, 1889, for the time being in England and Wales:—

And to all others whom it may concern.

Whereas by Section 9 of the Margarine Act, 1887 (hereinafter referred to as "the Act of 1887"), provision was made for the registration of every manufactory of margarine in England and Wales by the owner or occupier thereof with the local authority from time to time in such manner as we, the Local Government Board, might direct; and whereas by an order dated the 22nd day of December, 1887 (herein-after referred to as "the order of 1887"), we directed the manner of registration under the Act of 1887 of every such manufactory of margarine; and whereas by Section 5 of the Sale of Food and Drugs Act, 1889 (hereinafter referred to as "the Act of 1889"), it is enacted that the provisions of the Act of 1887, as amended by the Act of 1889, shall extend to margarine-cheese as defined by

that Act, and shall apply accordingly with the substitution of "margarine-cheese" for "margarine"; and whereas by sub-section (4) of Section 7 of the Act of 1899 it is enacted that the provisions of Section 9 of the Act of 1887 relating to registration of manufactories shall extend to any premises wherein the business of a wholesale dealer in margarine or margarine-cheese is carried on;

Now therefore, we, the Local Government Board, hereby order and direct as follows:—

Article I.—This order shall come into operation forthwith, and shall remain in force until we shall otherwise direct; and the order of 1887 is hereby rescinded:

Provided that in every case where a manufactory of margarine, or an owner or occupier carrying on the manufacture of margarine has been duly registered, and such registration has effect at the date of this order, such registration shall, notwithstanding the rescission of the order of 1887 but subject to the provisions of Article IV. of this order, continue to have effect: Provided also, that any book which, prior to the date of this order, has been used by a local authority in pursuance of the order of 1887 for purposes of registration shall, so far as such book contains any entry applicable to any such case as aforesaid, be deemed to be part of the register of the local authority for the purposes of this order,



**Article II.**—Every owner or occupier of a manufactory of and every wholesale dealer in margarine or margarine-cheese in England and Wales who shall make application to the proper local authority for a certificate of registration under the Act of 1887 and the Act of 1889, or under either of the said Acts, shall, in his application, state the following particulars:—

(a) The name and address of the owner or occupier or wholesale dealer making the application.

(b) The situation of the manufactory, or of the premises wherein the business of the wholesale dealer is carried on.

(c) The name and address, or names and addresses, of the owner or owners, or occupier or occupiers, or wholesale dealer or dealers, carrying on the manufacture or the business.

Every such application shall be signed by the person making the same, or by someone acting on his behalf.

**Article III.**—If the application is in due form, the local authority shall cause the manufactory, or the premises, as the case may be, to be registered by entering in a book the particulars of the application for registration; and thereupon a Certificate, in the Form A. set forth in the Schedule hereto, shall be issued by the local authority to the person applying for the same.

**Article IV.**—Where any change occurs in the persons carrying on the manufacture, or the business, written notice thereof shall be given by the owner or occupier of the manufactory, or by the wholesale dealer carrying on the business, to the local authority, and the register shall thereupon be amended by making therein the requisite alteration, and an endorsement shall be made by the local authority on the Certificate in accordance with the Form B. set forth in the said Schedule.

#### Schedule.

##### FORM A.

Certificate under the Margarine Act, 1887.

50 and 51 Vict. c. 29 [or] [and]

[the Sale of Food and Drugs Act, 1899,

62 and 63 Vict. c. 51.]

This is to certify that the (1) —, known as —, situate at —, at which the (2 and 3) —, is [or are] at present carried on by (4) —, the (5) — thereof, has [or have] been duly registered by (6) —, in accordance with the provisions of the (7) — in that behalf, on the application of (8) —. Dated this day of —, in the year One thousand nine hundred. —Signed —, Clerk to the [here insert name of Local Authority]

Directions for filling up this Certificate: Insert—(1) "Manufactory" or "premises" or both, as the circumstances require. (2) "Manufacture of" or "business of a wholesale dealer in," or both, as the circumstance require. (3) "Margarine" or "margarine-cheese," or both, as the circumstances require. (4) Name of the owner or occupier. (5) "Owner" or "occupier." (6) The name of the Local Authority within whose district the manufactory or premises is or are situate. (7) "Margarine Act, 1887," or "Sale of Food and Drugs Act, 1899," or both, as the circumstances require. (8) Name of applicant.

##### FORM B.

Endorsement on Certificate in case of change in persons carrying on the manufacture or business —.

This is to certify that — has been duly registered as the (1) —, carrying on the (2 and 3) —, in the within named (4) —, in the place of —. Dated this day of —, in the year One thousand nine hundred. —Signed —, Clerk to the [here insert name of Local Authority].

Directions for filling up this Certificate: Insert—(1) "Owner" or "occupier." (2) "Manufacture of" or "business of a wholesale dealer in," or both, as the circumstances require. (3) "Margarine" or "Margarine-cheese," or both, as the circumstances require. (4) "Manufactory" or "premises," or both, as the circumstances require.

## The Portsmouth Borough Analyst on Adulteration.

AT Portsmouth, Mr. J. M. Murray, the Borough Analyst, read a thoroughly interesting paper, entitled "Food." People nowadays lived in "shoddy" times, wore shoddy clothes, and sometimes lived on shoddy food. Mr. Murray went on to refer to the dilution of spirits with water by publicans, who protected themselves by notices placed in their houses announcing that their liquors had received the addition of *aqua pura*. In a certain case of which he had knowledge, this method brought in a profit of 50 per cent. to the vendor. With regard to butter and kindred materials, certain chemists, to their shame, devoted their whole energy to making compounds which would defy the public analyst, with the result that no two analysts could agree as to the amount of the adulteration of butter when it was scientifically done, and did not exceed 10 per cent. It was a matter for regret that Portsmouth had very little to pride itself on with regard to the adulteration of food, for from the annual reports issued by the Government it appeared that Portsmouth was one of the worst towns in the country. Last year, too, there was no improvement in this respect. However, certain causes were at work which would probably raise Portsmouth from its present position. Unless the authorities did their utmost to make adulteration a losing rather than a paying game, very little improvement could be expected. Small fines were of very little effect, but there was reason to hope that the fines imposed locally were likely to deter people from practising adulteration. The Portsmouth Magistrates had shown that they were prepared to assist the Local Authority, and it was satisfactory to note that towards the end of last year, for the first time in his experience in Portsmouth, the whole of the twelve samples of milk which he had examined, were beyond suspicion. Adulteration in other parts of the country were decreasing, but in Portsmouth it was steadily increasing, and hitherto the article which had been most generally adulterated had been milk.

\* \* \* \*

## An Admirable Exposition of What Adulteration Costs English Industries.

WE do not know what the Ipswich Social Settlement is but if its members secure many lecturers of the ability of Mr. W. L. Sutton, F.I.C., public analyst for Suffolk, they will have plenty of valuable food for thought.

On March 16th, Mr. Sutton introduced a discussion upon the subject of "Food Adulteration—its Moral, Physical, and Economic Evils." Speaking as an "expert in adulteration"—a term which he should hesitate to apply to himself, he said, if he was a grocer or a wine merchant—(laughter)—Mr. Sutton showed that adulteration is no modern excrescence on Commerce. It was practised in the ancient civilisations of the Chinese and the Hindoos; there are frequent references to the subject in the literature of Greece and Rome; in the Middle Ages, ingenious and drastic punishment was meted out to those who "doctored" bread, and wine, and beer. The offenders were subjected to corporal punishment, to exposure at the pillory; and in other forms of public penance; at Chester, during the reign of Edward the Confessor, a wretched brewer was paraded round the town what would now be called a night-soil cart for brewing bad beer. Ale-tasters were amongst the regular officials of old Corporations. One part of their duty was to decide whether sugar instead of malt was used in brewing. This was done, according to report, by spilling some beer on a form—the old inspector then sat on the liquid; if he, or a certain part of his clothing, stuck to it, he pronounced it sugar-beer; if he did not so stick, he passed as pure. (Laughter) There was no uniformity in all these old enactments, however, for they were local and of spasmodic administration only, and it was not until the 60's of the present century that the law against adulteration began to assume shape and form. As it was, modern adulteration had become both an art and a science, and, in



regard to detection, it was a kind of neck-and-neck race—science against science, chemist against chemist. Mr. Sutton dealt exhaustively with the adulteration of milk, cream, butter, coffee, cocoa, beer, spirits, and other articles of common consumption. A curious point had reference to the amount of water which can be worked into butter, this had been done to such an extent in some cases that the product was once described as “water made to stand upright.” (Laughter.) Some samples of coffee, which were “honestly” described as coffee and chicory, contained 90 per cent. of chicory, and while the chicory itself was often adulterated, and the last-named article used sometimes to be adulterated with brick dust. (Laughter.) The paper abounded in closely-packed information, put in telling and humorous words. Some startling figures were given as to the economic aspect of the question. Taking the whole country over, it was estimated that the added water to milk represented a cost to consumers of £203,000 a year, the abstraction of fat from milk £90,000, the adulteration of butter with margarine £128,000, of coffee £43,000, and of spirits £121,060. The sugar used in brewing, instead of malt, represented a decrease of the area under barley cultivation of 1,600,000 acres, and the acreage under hops—quassi, gentian root, and other things being used instead—had declined by 30,000 acres.

Mr. J. A. Smith, who was in the chair, opened the discussion, and listened with equanimity afterwards to some rather “nasty” remarks about the recent increase in the price of milk in Ipswich, and the curious coincidence between that circumstance and the conviction of milk-sellers.

Mr. Shrubbs, Mr. Brooks, Mr. Mundy, and others spoke with point and humour. Mr. Brooks told a very funny story, by way of illustrating the extraordinary possibilities of adulteration. He went to supper with a friend, he said, and ate what he fully believed to be a sausage roll, so well-filled with “meat” that he thought of how his own wife would have made eight rolls out of such a sausage. On his way home, he learned for the first time that his hospitable friend was a vegetarian, and that he must have been eating a vegetable sausage. (Laughter.)

Mr. Sutton answered a number of inquiries, and, on the motion of Mr. Panton, seconded by Mr. S. J. Hutley, a very cordial vote of thanks was passed to him at the close of a well-spent evening.

\* \* \* \*

### Weights and Measures Inspection in Ireland.

AT the Weights and Measures Examination to be held early in April, the following 36 candidates, 29 of whom are now at Depot undergoing the usual preparatory course of instruction, will be present:—Constables W. J.

Blair, Thomas Fraser, County Antrim; Constable R. Callaghan, Armagh; Acting-Sergeant R. Wilson, Cavan; Constables Samuel Caldbeck, Martin Conran, Cork, E.R.; Constable Michael T. Doran, Cork, W.R.; Acting-Sergeant Patrick Wall, Donegal; Acting-Sergeant M. Duffy, Constables M. M’Laughlan, Stephen Patterson, Down; Constable A. M’Gann, Dublin; Acting-Sergeant P. J. M’Mahon, Galway, E.R.; Acting-Sergeants Wm. E. Wilders and Patrick Butler, Kerry; Constable J. Gill, Kildare; Constable T. Moroney, Kilkenny; Acting-Sergeant M. Lawlor, King’s County; Acting-Sergeants M. J. Carroll and P. Burke, Limerick; Acting-Sergeant R. A. M’Combe, Constables P. Brady, and R. J. Browne, Londonderry; Acting-Sergeant J. Grady and Constable T. M’Getrick, Mayo; Acting-Sergeant T. Forde, Meath; Acting-Sergeant Thomas M. Marshall, Constables P. Reilly and Simon Gaffney, Sligo; Constable P. Sands, Tyrone; Constable M. Boyle, Westmeath; Acting-Sergeant P. W. M’Donagh, and Constable J. Russell, Wexford; Acting-Sergeant P. Gunn, and Constables J. J. Stokes and R. Roe, Belfast.

\* \* \* \*

### Durham County issues Posters of Adulteration Convictions.

THE following Poster has been issued publishing Adulteration Convictions.

#### COUNTY OF DURHAM.—FOOD & DRUGS ACTS.

##### ADULTERATION PENALTIES.

Notice is hereby given that at the Darlington County Petty Sessions, on 5th instant, the following PENALTIES were inflicted, viz.:

£3 11s. 0d. including Costs, on a Person who sold Golden Syrup adulterated with Glucose Syrup.

17s. including Costs, on a Person who sold Treacle adulterated with Glucose Syrup and

14s. 6d. including Costs, on a Person who sold Sweet Spirit of Nitre adulterated with Water, &c.,

And that at the Houghton-le-Spring Petty Sessions, on 8th instant, the following PENALTY was inflicted, viz.:

17s. 6d. including Costs, on a Publican who sold Rum 34 degrees under Proof.

RALPH SIMEY,

9th March, 1900.

Clerk of the County Council.

\* \* \* \*

### A Testimonial for Mr. W. J. Parkinson.

A MOVEMENT is on foot to raise a testimonial to Mr. W. J. Parkinson, whose services in preventing the fraudulent sale of adulterated butter and margarine in Lancashire have been so notable of recent years. The proposal, according to the *Preston Guardian*, is being warmly taken up by farmers.

## Legal.

MARGARINE CHEESE.—THE FIRST CASE UNDER THE ACT.—James Caldwell and Samuel Caldwell, provision dealers, 45, Watson Street, appeared at Birkenhead on March 19th, before Messrs. J. Pennock and Edward Williams, on a summons for having on the 5th of February sold margarine cheese without suitably labelling it. Mr. Fearnley (Deputy Town Clerk), who prosecuted, said that defendants were charged on three informations, which were—First, with having sold cheese which was adulterated with 16 per cent. of foreign fat; secondly, with having neglected to have a printed wrapper; further, with not having a label affixed to the cheese. About five o’clock on the 5th February the Chief Inspector of Nuisances sent his clerk into the shop to make a purchase of cheese. This was done, and the Inspector then went in himself, and, noticing a piece of cheese on the counter, he asked for a pound of it. This was given to him, in return for the cost, 5s. The paper in which it was wrapped was not printed on or marked in any way, and the cheese on the counter did not bear any label. The Inspector informed the assistant that he intended to send the cheese to the public analyst. This had been done, and the report received stated that the cheese contained 16 per cent. of foreign fat.

Samuel Caldwell said that he was out of town when the Inspector called, but before he left the cheese was not cut. It had been cut in mistake from a box which had been bought last year before the Act came into force. John Nettle (assistant) said that he had cut the cheese in order to put some in the window for show. The magistrates said that the case was proved, but as it was the first offence under the Act a fine of 40s. would be imposed in the first case, and 20s. and costs in the two latter.—Arthur F. Vickers, 391, Borough Road, was summoned before Messrs. J. Pennock and Edward Williams, at the Borough Police Court on Monday (1), for having neglected to label margarine cheese as such, and (2), for having neglected to deliver such cheese to the purchaser in a properly labelled wrapper. It appeared that during the afternoon of the 9th February, Joseph Bennett (assistant) to Mr. Dawson, chief inspector of nuisances, entered the defendant’s shop and purchased a pound of sixpenny cheese. The lump from which the cheese was obtained was unlabelled. Having made up the parcel, Vickers informed Bennett that the cheese was not pure cheese: it was what was called margarine cheese. The defendant afterwards wrote the words, “Margarine Cheese,” on the wrapper. Bennett divided the cheese into three parts, apprised the defendant that it was intended to have it



analysed, and left one portion with the defendant, who then said he had not been aware that it was necessary to have the cheese labelled. But, said Mr. James Fearnley, who prosecuted, defendant must evidently have known something about it by writing the words "Margarine Cheese," on the paper. In cross-examination by the defendant, Bennett denied that the defendant said the cheese was margarine cheese before he served him with it. Defendant did say: "It's very sharp." He (Bennett) also said: "It's very sharp," and defendant added: "The cheese is very sharp" (laughter). The Public Analyst certified that the sample of cheese submitted to him contained 15 per cent. of foreign fat. Defendant said there had been no intention on his part to defraud. He had told customers that the cheese was margarine cheese. He had not been aware that he was required by law to label it. The Bench fined Vickers £1, including costs, or 14 days' imprisonment in the first case; and 10s., including costs, or seven days' imprisonment, in the second.

**MARGARINE AND BUTTER PROSECUTIONS.**—On March 17th, Emma Goodair, grocer, Ferrybridge, was charged with having sold adulterated butter, and with having sold margarine without a printed wrapper. It appears that for all the years Mrs. Goodair had carried on business she had never to her knowledge sold margarine. Mr. Kemp, who defended, put in the invoice, in which the article was described as butter, and she was charged the ordinary butter price for it. He also produced a letter from Messrs. Peacock Brothers, Wakefield, who supplied it, stating that they did not stock margarine, and that it was sold to defendant as butter. Mr. Whardall, for the prosecution, said they only wanted to get to the bottom of the case. If the Bench held that the invoice was a warranty, then he would proceed against Messrs. Peacock Brothers, but if not he must ask for a conviction. The Bench first decided to adjourn, in order that Messrs. Peacock might have an opportunity of attending, but finally decided to hear the case. The purchase was proved, and the analysis was put in, showing that the sample contained only 10 per cent. of real butter. The Bench held that the invoice was not a warranty, and that a conviction must follow. It did appear that defendant has been misled in the purchase of the article, but she should have insisted upon having a guarantee that what she was selling was the pure article. A fine of 5s. in each case, and total costs of £2 14s. was imposed. It was intimated that defendant would have cause for action against Messrs. Peacock for damages.

At Altrincham, on March 19, John Cooper, 46, Navigation Road, Broadheath, was summoned on two informations for selling margarine as butter, and also with selling margarine without a wrapper as required by the Act. Mr. E. Brown, of Stockport, prosecuted, and at the outset withdrew the second summons. It appeared that the defendant had been carrying on business during the past twelve months by selling "butter" in pounds and half-pounds. He had charged 10½d. per lb. for butter, whereas the average price of the pure article during the past winter had been about 1s. 4d. per lb. The shopkeepers of the district finding out what had been going on made a complaint, and on the 16th February, Mr. R. Hind, an inspector of the Cheshire County Council, purchased from the defendant a pound of "butter" for which he paid 1s., and which on being analysed by Dr. Carter Bell was found to be margarine and not butter. On a table in the back kitchen were four 3 lb. lumps, 12 2lb. lumps, and 13 1lb. lumps, in all 49 lbs., and there were scales and weights. Mr. Brown said that it might be alleged in mitigation that the defendant had been victimised by some Dairy Company at Wigan, but he could not have protected himself by a proper invoice which would have been equivalent to a warranty. It had been represented that defendant got the alleged butter from Roscommon, and that was the reason why he could not sell it so cheap. This, therefore, made it a serious matter for the consideration of the magistrates. Mr. Roger Hind, inspector of weights and measures, proved the case, and was cross-examined at some length by Mr. Peterson for the defence. He emphatically stated that he told Mrs. Cooper that if she did not sell him the butter she would be liable to a heavy penalty. For the defence it was stated that the last time Mrs. Cooper went to Wigan, the dealers gave her a piece of what she thought to be butter, and that was what was sold to the inspector by mistake. On the best butter Cooper actually made no profit, but on the second quality he made a halfpenny per pound profit. Mrs. Cooper was called and stated that she had a lump of "cooking butter" given her. She had numerous friends and she obtained the butter to oblige them. Mr. Brown remarked that it was unfortunate that the inspector got hold of the "cooking butter" instead of the best. A man named James Corcoran, late manager of the "Irish Market," Wigan, said that the defendant's wife bought about 60 pounds at a time of "what was supposed to be" Irish butter. In reply to Mr. Brown, he said he was not aware whether the place was registered for the sale of margarine. The firm was now called the Irish Dairy Company, and Patrick Casey, of Cleeve, co. Roscommon, was the proprietor, and came over occasionally. He admitted that the company had been fined for selling margarine as butter. The Chairman (Mr. R. H. Joynton) said they had no option but to convict. Taking into account the position of the defendant, he would be fined £5, including costs, but on the evidence they were not sure they had got the right people before them. The Bench thought the Dairy Company ought to pay the fine.

On March 22nd, D. Owen, of Waterloo Street, Camberwell, was summoned, at the instance of the Camberwell Vestry, for selling butter which was not of the nature, substance and quality of the article demanded by the purchaser. Mr. G. W. Marsden, solicitor to the vestry, appeared in support of the summons. On the 16th ult., Inspector Groom, an officer appointed by the vestry for the purpose of enforcing the provisions of the Sale of Food and Drugs Act, caused a sample of shilling "butter" to be purchased at defendant's shop. The article supplied was submitted to the public analyst, who certified it to be margarine. In answer to the summons the defendant said he gave his assistant instructions to sell the article as a mixture. Upon being told by Mr. Marsden that the defendant had offended on previous occasions, Mr. Hopkins ordered the defendant to pay a penalty of £15.—Susannah Butcher, of Cator Street, Peckham, was fined 20s. and costs for selling as butter an article which proved upon analysis to be margarine.

**MILK PROSECUTIONS.**—At Bolton, on March 21st, Stephen Robinson, farmer, Walsh Fold, Bradshaw, was charged with having sold milk impoverished by the abstraction of 40 per cent. of its fat so as to injuriously affect its quality on the 16th February, and without having notified the purchaser of such deterioration. Mr. J. H. Hall appeared for the defendant. Inspector Spencer deposed to purchasing milk from two cans in the defendant's cart. One was found on analysis to be right, but the other sample was deteriorated to the extent named above. A sample taken in January was found all right. In defence Mr. Hall pointed out that the sample respecting which complaint had been made was only very slightly below the Corporation standard of 3 per cent. of fat and 8½ per cent. of solids. The fact of the milk being poor was due to it being low down in the kit. The Magistrates' Clerk (Colonel Winder) pointed out that if the milk was in the condition described, the dealer could only free himself from responsibility by telling the customer that it was low down in the can and was consequently not of proper quality. Mr. Hall pointed out that there was no allegation whatever that the milk in this case had been watered. The Bench disagreed as to their decision, and the case was accordingly dismissed.

At Wakefield on March 21st, Joseph Burton, farmer, Dircar, was charged with having sold milk alleged to have contained 42·4 per cent. of added water. Mr. Parrish, Deputy Town Clerk, prosecuted, and Mr. Woodhead appeared for the defendant. It was stated that Burton supplies milk to Her Majesty's prison at Wakefield and to other public institutions in the city, and also to retail dealers. When an inspector stopped the defendant and asked to be supplied with a pint of milk from a large can containing milk for dealers the defendant endeavoured to take it out of another large can containing the supply for the prison and other public institutions. The defence was that Burton supplied all his customers with milk in exactly the same state as it came from his cows at his farm. The Bench fined the defendant £10, and he had £1 1s. to pay for costs.

#### FORMALIN IN MILK.

At Liverpool, on March 21st, Thomas Lawson, a milk dealer, was summoned for selling milk adulterated with formalin. The defence was that formalin was used as a preservative, and kept the milk from going sour in poor dwellings where it was likely to be contaminated. The feature of the case was the evidence of Professor Bryce, city analyst. "What is the effect of formalin on the human system?" he was asked. "It has a most injurious effect both on the process of digestion and on the mucous membrane of the stomach." "Is the presence of any formalin whatever necessary to keep milk a reasonable time in a small dwelling house?" "The addition of formalin, unquestionably, will help to keep milk a little longer; that is to say, it retards the growth of certain bacteria, but at the same time it sets up certain tough, resistant organisms, which predispose to diarrhoea and other complaints. If it prevents fermentation in the milk, it will also prevent fermentation in the stomach; that is to say, the process of digestion." The Stipendiary said he would adjourn the case *sine die*. He understood there was a Departmental Committee of the Government sitting on the question of formalin in milk, but that committee might be dissolved by a general election; he could not wait for the decision of the Committee, and he warned future offenders that they would be severely dealt with.

At Northampton, Albert Gobby, dairyman, 57, Thoristane Road, Far Cotton, was summoned for a breach of the Food and Drugs Act by selling milk deficient in fat, to the prejudice of the purchaser, at Dallington, on the 18th ult. Mr. A. J. Darnell prosecuted, and Mr. G. Jason Phillips defended. Mr. Darnell mentioned that this was the first case taken under this section of the Act. Frederick Carlton, Inspector of Weights and Measures for the Southern part of the County, deposed to purchasing the milk from defendant's brother and sending a sample for analysis to the public analyst. His report stated that it was deficient in fat to the extent of 10 per cent. In reply to Mr. Phillips, witness admitted he had taken another sample from the defendant previously that morning, and this had also been submitted for analysis and found correct. He could not say whether the two samples were from the same urn of milk. Mr. Phillips contended that Dr. Voelcker, the analyst, had made a mistake, and said that



both the samples were taken from the same urn, and he challenged another analysis of remaining samples. Defendant said that the milk was not tampered with in any way. By Mr. Darnell: The samples were taken at different times and in different places. The Bench said this was the second time the defendant had been convicted for a similar offence in thirteen months. He was enriching himself by systematically defrauding his poorer brethren, and he would have to pay a fine of £10 and 6s. costs.—John James Letts, dairyman, 24, Greenwood Road, Duston St. James', was summoned for a breach of the Food and Drugs Act by selling milk deficient in fat, at Duston, on 18th ult. Mr. A. J. Darnell prosecuted, and Mr. G. Jason Phillips defended. Mr. Coulton again gave evidence, and the analysis proved that the sample was deficient in fat to the extent of 13 per cent. Mr. Phillips said that the defendant purchased the milk, and did not keep cows himself. Defendant had been a milk seller for 14 years, and many samples had been taken from him and found up to standard. Defendant said that the milk was sold exactly as he received it from the farm. He had never been in trouble before, and had never lost a customer through selling bad milk. By Mr. Darnell: He had not got a written warranty from either of the two farmers from whom he purchased milk. By the Bench: He saw the cows milked. The Chairman said that as the defendant had presumably been an honest trader for many years they would inflict a smaller fine than would otherwise have been the case. Had it not been for that the fine would have been £5; as it was, the fine would only be £3 and costs. Defendant: Gentlemen, I pay it with a clear conscience. It was no fault of mine whatever. The Chairman: You should have protected yourself. You could have obtained a warranty.

**WEIGHTS AND MEASURES PROSECUTIONS.**—At Coventry Police Court, on March 15th, John Wheatley, coal dealer, of Bedworth, was summoned at the instance of the Inspector of Weights and Measures for a breach of the Weights and Measures Act. The Inspector stated that on the 1st inst. he saw defendant delivering coal to Mrs. Louisa Jackson, Albert Street. Defendant stated that he was delivering three-quarters of a cwt. Witness weighed the coal, and found that defendant was delivering 101 lbs. to purchasers as 1 cwt., this being 11 short. Defendant had altered his stilliard in order to give short weight.—Mrs. Louisa Jackson, Albert Street, stated that she had purchased coal from defendant for some time at the rate of 1 cwt. per week, and had been under the impression she received that quantity. The Bench inflicted a fine of 40s. and costs, in all £2 18s.

Jane Cottingham, Monks Road Restaurant, was summoned at Nottingham for having 10 pint glass measures which were not stamped, as required by Section 29 of the Weights and Measures Act, 1878. Inspector Bradley visited defendant's restaurant on the afternoon of the 15th inst. The glasses were unstamped, but they were the right measure. The Chairman said that the fact that the glasses were the right measure made a difference to him, as it showed it was only carelessness. Fined 5s.

At Lincoln, on March 23rd, Thomas Buxton, 6, Glansby's Court, was charged with having in his possession a weighing instrument, which was not stamped. Inspector Bradley explained that he saw defendant going from house to house collecting rags and bones. The weighing instrument was unstamped. Fined 2s. 6d.

**SAGO OR TAPIOCA?**—At Southwark Edmund Goodrich, of 35, Old Kent Road, was summoned by the Vestry of St. George the Martyr for selling a substance which when analysed was found to be tapioca granulated to resemble sago in appearance. It was admitted that sago and "Pearl C" tapioca were very much alike in appearance, the only difference being that sago was rather more yellow in colour. Mr. Beck, for the defence, contended that there could be no prejudice to the purchaser in this case, nor was there the element of fraud, inasmuch as the article supplied was worth more than that asked for. The fact was the defendant had found that people preferred "Pearl C" tapioca, which was white in colour, while sago looked rather dirty. His assistants, however, had been instructed to tell customers exactly what they were being supplied with, but apparently the assistants who served the inspector who made the purchase on which the summons was issued was lax in his duty in not informing the inspector that he was being served with "Pearl C" tapioca. Mr. de Rutzen said the defence was a good one, and the only thing that astonished him was that the summons had been taken out. He ordered the defendant to pay the costs only.

**GOLDEN SYRUP PROSECUTION.**—Albert Bellamy, grocer, Nottingham Road, Loughborough, was summoned under the Food and Drugs Act for selling golden syrup which was not of the nature and substance demanded by the purchaser, on February 19th. Defendant pleaded guilty, but urged that he purchased the syrup with the stock when he took over the premises, and did not know it was of inferior quality. Deputy-Chief Constable handed in an analyst's certificate, showing that the syrup supplied him was adulterated with 50 per cent. of glucose made from starch. The added substance was not injurious to health. The present case was being taken as a warning to others. The magistrates imposed the nominal fine of 1s., and ordered defendant to pay the costs, including the analyst's fee. The Chairman expressed the opinion that the makers of the syrup should be proceeded against in cases where it was possible.

**WHAT IS PURE VINEGAR?**—The Police Magistrate at Marlborough Street, on March 22nd, was asked to determine the constituents of pure malt vinegar. Messrs. Hill, Evans, & Co., of Worcester, were summoned by the St. James's Vestry for selling vinegar with a false warranty as "Pure Malt Vinegar." There was no allegation of fraud. The point involved was stated by Dr. James Edmunds, the official analyst for the vestry, who said he had analysed a sample of the vinegar, and found 0.121 per cent. of sulphuric acid, whereas in good vinegar there should be only 0.022 per cent. He did not suggest that any free acid had been added, but that it had "combined" in the process of manufacture. Mr. Bernard Dyer, public analyst for Leicester, Rutland, and Wiltshire counties, said he also had analysed the vinegar, and had found sulphate of lime, but no sulphuric acid properly so called. The vinegar was pure malt vinegar. Mr. Fenwick remarked that the parties appeared to agree that the vinegar was made from water containing sulphate of lime, and the question for him to consider was whether it was fairly warranted as good vinegar. He adjourned the case for a week.

## Correspondence.

TO THE EDITOR OF *Food and Sanitation*.

### Food v. Cancer.

SIR,—Hippocrates the Father of Medicine, who died 361 B.C., taught that disease might be treated by Medicine, by Surgery, and by Diet. Medicine has had a fair trial, and has been in late years almost supplanted by Surgery; but there are not wanting signs that the time is fast approaching when Diet will be studied as it should be, and then even the Surgeon will have comparatively little to do. Hitherto it has been a rare occurrence for a Physician to call attention to the question of Diet, and still rarer for a Surgeon to do so; but now both Physician and Surgeon do not hesitate to enter the ranks of Dietetic Reformers. The last to join the pioneers of the profession is Sir William Banks, who, lecturing before the Medical Society on "Cancer of the Breast," says that as the result of his researches he concludes that overfeeding is the predisposing cause of Cancer; and he attributes the increase of Cancer to the more general consumption of butchers' meat; the use of which has increased enormously during the last thirty years. Physicians have long taught that gout was the direct result of overfeeding, and if their warning were listened to, what a fell disease would be banished from our midst. Some Physicians have ventured to assert that overfeeding is also the predisposing cause of all our epidemic diseases, lowering the vitality and making us an easy prey to the various bacteria which give rise to such diseases. Now that a Surgeon of such eminence as Sir William Banks, after a life study of Cancer, with the accumulated wisdom of close observation, has come to the conclusion that the change from the simple food of our forefathers to the highly concentrated food, more especially the fleshy food of the present day, is the cause of that dreaded disease from which in the majority of cases even the unsparing knife of the Surgeon cannot save us, may we not hope that the Medical Profession will in these latter days turn its attention to Diet, and under the guidance of Hippocrates, who has left an excellent treatise on the subject, enter upon a crusade against all foods which are known, or can be proved to produce disease in man?

The laity have led the way so far, now let us hope that the profession will take up the study of food, and that every Medical School will endow a Chair of Dietetics so that its students may be instructed in a subject hitherto entirely ignored by our Medical Educational Institutions and enabled to guide, not only themselves, but their Clientele in the choice of food, while in health, that all diet-produced disease may be stamped out.

I am,

Yours faithfully,

Denholm,

Hawick, N.B.

JOHN HADDON, M.A., M.D.

March, 1900.



# COLEMAN'S

## "WINCARNIS"

OR

### LIEBIG'S EXTRACT OF MEAT & MALT WINE

IS THE FINEST TONIC IN THE WORLD.

#### OVER TWO THOUSAND TESTIMONIALS

Have been received from Medical Men.

#### Seven Gold Medals and One Silver Medal

Have been awarded.

Sold in Bottles, 2/9 and 4/6 everywhere.

Sole Manufacturers:

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A 2s. 9d. Bottle sent Post Free on receipt of 33 Stamps.

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Three months	...	...	1/8.
Six	"	...	3/3.
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Postal Orders to be made payable to M. HENRY, 4, Ave Maria-lane, London, E.C., to whom all communications for the Editor are to be addressed.

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## Food and Sanitation.

SATURDAY, APRIL, 7, 1900.

### What is Pure Vinegar?

SEVERAL years ago a large amount of interest was shown in this question, but a number of prosecutions in various parts of the country had no result save to show that certain authorities were hopelessly at variance on the question.

The case of Hill, Evans, and Co. decided at Marlboro' Street Police Court, London, on March 30th, can hardly be said to be satisfactory as defining what is pure vinegar.

On March 22nd the Magistrate was asked to determine the constituents of pure malt vinegar. Messrs. Hill, Evans, and Co., of Worcester, were summoned by the St.

James's Vestry for selling vinegar with a false warranty as "Pure Malt Vinegar." There was no allegation of fraud. The point involved was stated by Dr. James Edmunds, the official analyst for the vestry, who said he had analysed a sample of the vinegar, and found 0.121 per cent. of sulphuric acid, whereas in good vinegar there should be only 0.022 per cent. He did not suggest that any free acid had been added, but that it had "combined" in the process of manufacture. Mr. Bernard Dyer, public analyst for Leicester, Rutland, and Wiltshire counties, said he also had analysed the vinegar, and had found sulphate of lime, but no sulphuric acid properly so-called. The vinegar was pure malt vinegar. Mr. Fenwick remarked that the parties appeared to agree that the vinegar was made from water containing sulphate of lime, and the question for him to consider was whether it was fairly warranted as good vinegar. He adjourned the case for a week.

Messrs. Hill, Evans, and Co., it appears, were alleged to have given the false warranty to Messrs. W. S. Chapman and Co.

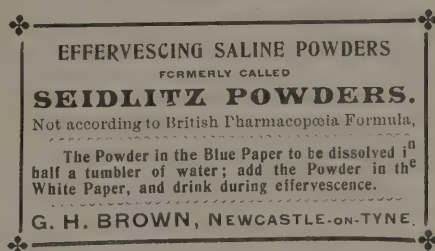
Mr. Otto Hehner, late president of the Society of Analysts, and other expert witnesses, called for the defence, denied that the vinegar contained any sulphuric acid, properly so-called, and asserted that the water used was pure and wholesome.

Mr. Fenwick, in giving his decision, said it was clear a warranty was given stating that the vinegar was pure. Was that warranty false? It was admitted that the unusual amount of so-called sulphuric acid was due to the presence of sulphate of lime in the water. There was no suggestion that it would make the vinegar injurious to health. The same kind of water that the vinegar was brewed from was used in making the celebrated Burton ales. The defendant firm was well-known, held a high position in the commercial world, and for the past sixty or seventy years had been making this vinegar. Upon all the facts he was of opinion it was pure vinegar, and that defendant had acted honestly in so describing it.

The summons was therefore dismissed, but no order was made as to costs.

### Seidlitz Powders.

A CASE tried at Seaham Harbour and reported in our legal columns shows how easily grocers may make themselves liable to prosecution. The sample of seidlitz powder which we have before us bears this ingenious label.



The grocer had no idea there was anything wrong with the goods until the Chief Inspector, Mr. Scott Elder bought some for analysis and explained why they were wrong.



PURE, WHOLESOME, DELICIOUS.

# BIRD'S CUSTARD POWDER

The unfailing resource of every Lady of the House  
and successful Housekeeper.

**NO EGGS ! NO TROUBLE ! NO RISK !**

## Seidlitz Powders (*continued*).

Another curious point is that a stout piece of mill-board was inserted between the two powders which gave the package in appearance the thickness of the genuine article, although the deficiency was no less than 33 per cent. sodium potassium tartrate, 35 per cent. sodium bi-carbonate and 26 per cent. of tartaric acid.

In abandoning the prosecution of the retailer and proceeding against the manufacturer of these powders, Mr. Scott-Elder has given another instance of the fact that the Inspectors are only too willing to help to protect retailers all they can and punish the real offenders. No one will be sorry that the too-clever manufacturer in this case has not only been exposed, but had to pay £5 and costs for the deception.

## Dietetic and Hygienic Notes.

### Cancer and Meat.

BY SIR JAMES SAWYER, M.D., F.R.C.P. LON., F.R.S. EDIN.

LIKE Sir William Banks, whose admirable lecture I have read with much interest and instruction, I have been in practice about a third of a century, and, as he has done, I have been led to form some decided "impressions, as to the etiology of cancer in our midst, he forming his ideas from a surgical standpoint and I from a medical one. While statisticians, clinicians, microscopists, and medical geographers are continuing their good work in adding to our knowledge of the incidence and pathology of cancer, and while we are not quite without increasing knowledge even of its successful therapeutics, and while we await the full light which research and observation will assuredly shed some day to make plain the causes and cure of cancer, in the meanwhile the impressions of thoughtful practitioners are of the greatest value as working hypotheses in preventive practice. The probability of the truth of such impressions is strengthened when it is found that many minds arrive at the same conclusions. I have long thought that the accepted increase of cancer in England in recent years is due to the increased feeding of the population, and especially to increased feeding upon meat. It appears from the reports of the Registrar-General that the mortality from cancer in England and Wales has almost exactly doubled during the 31 years immediately preceding the year 1895. It also appears, as stated by Sir William Banks in his quotation from and summary of the figures of Mr. Haviland, that the increase in cancer mortality amongst us has risen more amongst males than amongst females. If we desire to reason by the method of concurrent variations on the causation of cancer we shall be led to inquire as to what great and widely-spread change has happened in the habits of life of the population of England and Wales during the last 30 years or so, and the fact of the enormously increased consumption of meat by the great masses of the people will be forced upon our attention. This generally increased consumption of meat has followed the continued importation of huge quantities of more or less fresh meat from America and from the antipodes. I do not mean that vegetarian feeders—if there be any who are strictly such—escape cancer. The intimate cause of cancer we do not yet know, but the malady has many of the features of a local overgrowth of tissue elements, and such appears to be favoured by excessive feeding and especially by feeding excessively and for a long time upon meat. In my experience cancer has not increased of recent years amongst the upper middle classes. In that class the general tendency seems to be towards refinement and variety of food, with the con-

sumption of less meat and with slower and more complete cooking of meat than formerly; but for the men of the "masses" of our people meat is more a prevalent food than before, and with them meat is eaten in single dishes, in relatively large quantities, often, and undercooked. I think it likely it will be found that it is amongst the men of the masses in England and Wales that the progressive increase in cancer in the period under consideration is mainly to be found. Steam appears to have brought us cheap food, and cheap food has multiplied our cases of cancer by two.

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### Adulteration of Powdered Drugs.

MR. W. B. WEBSTER, of the school of pharmacy in Maine, examined seventy-eight samples of powdered drugs and reported results at the last meeting of the Maine Pharmaceutical Association. Of these 78 samples, representing 16 different drugs, 30 were genuine and of fair to good quality; 44 were largely or grossly adulterated; four were moderately adulterated or partly exhausted; and one was a wholly different substance than labelled. Thus only 38.4 per cent. of the samples were fairly represented by label. And even this percentage is higher than it would have been if only the stock ready for sale to the retail trade had been considered; in a few instances special laboratory stock, or whole drugs ground as called for, were delivered, presumably making a better average showing.

The sixteen drugs represented were: Allspice, carraway, Cayenne pepper, cassia cinnamon, Ceylon cinnamon, cloves, ginger, ipecac, kamala, liquorice, lupulin, lycopodium, mustard, nux vomica, black pepper, rhubarb, and turmeric. Allspice was found to contain cloves, sawdust, starch, and wheat flour; some samples contained no volatile oil whatever? The adulterants found in each of the other drugs were as follows: In carraway, bean and wheat flour; in Cayenne pepper, red woody fibre, starch, and partly exhausted drug; in cassia, cinnamon, an astringent bark, flour, sugar, and even cubebs (in one sample); in Ceylon cinnamon, none; in cloves, excess of stems and partly exhausted drug; in ginger, damaged root, dirt, and African ginger; in ipecac, wheat flour and undetermined starch; in kamala, sand and an undetermined foreign ingredient; in liquorice, gypsum and an undetermined foreign ingredient; in lupulin, leaves, stems, and sand; in mustard, a large percentage of flour and turmeric; in nux vomica, ignatia bean and clay; in black pepper, corn-meal, shells, dust, bran, wheat, and mill sweepings; in rhubarb, bran, flour, turmeric, starch, and mustard; and in turmeric, starch.



### English and Foreign Cheese-making.

IN summing up an article on "Dairying at Home and Abroad," in the current volume of the Transactions of the Highland and Agricultural Society, Professor James Long says:—

Briefly summarising the comparative results obtained by the foreign and the British dairy-farmer, we are enabled to arrive at the conclusion, upon the basis of actual facts and figures derived on the spot, that the maker of foreign pressed or blue-veined cheese—we are especially referring to the farmer or the factory manager representing him—realizes a much smaller price for his milk than the farmers in England and Scotland, and that his produce is generally inferior to our own. With regard to the fancy soft cheeses of France, however, the results are altogether different. The prices realised by makers of Brie, Camembert, Pont l'Eveque, Port du Salut, and some less popular varieties, are as high as, and in some cases higher than, those realised by the mere handful of makers of Stilton who obtain the top price of the market. Soft cheese-making offers ample opportunities for the realisation of

similar profits in Great Britain, and it is to be lamented that the attempt is not made. There are, it is true, some half-dozen British makers of English cream or soft curd cheese on a somewhat large scale who are succeeding admirably; but when we know that there is a market in London, and in other large cities for French varieties of the few popular kinds, we can only express surprise that no attempt has been made to supply it with English-made cheese.

As regards the manufacture of butter, while we are bound to claim that the best produce of Great Britain is not excelled by that of any other country, it cannot be produced on the gigantic scale necessary for the feeding of our people in face of the prices which Continental and Colonial makers are willing to accept. The reasons for this have been sufficiently explained; and we need only add in conclusion that if, under existing conditions, we are not likely to extend the butter industry, there is every reason why we should make great efforts to improve the general quality of our cheese, and to produce still larger quantities than we do at the present time, by the introduction of those methods which have been referred to in this paper.

## Official Reports and Notes.

### Worcester: Weights and Measures and Pure Food.

THE Worcester Inspector receives the following glowing eulogy from the *Worcester Chronicle*—"That the Inspector of Weights and Measures for the city has plenty to occupy his time, and that he is a most necessary official in the public interest, is shown by the statistics in his annual report. Last year he examined 6,525 weights, of which 1,707 required adjusting, 131 were condemned, and seven were seized; while of 10,574 measures examined no less 2,002 (earthenware ones) were rejected, and 11 condemned. What possibilities of fraud were thus obviated? Of course, some adjustment is occasionally required, by reason of ordinary wear and tear; but the rejected and condemned articles seem to have been decidedly numerous. Mr. Harper, besides his duties as above enumerated, attends to the city weighing machines, marks the tare on coal carts, made 702 visits of inspection to various places of business, and instituted two prosecutions in connection with the sale of butter in the market, there being a conviction in each case. He adds, in his report, that "in cases involving slight infractions of the law, cautions have been given, and have had the desired effect."

One trembles to think what might happen if there were no vigilant inspector constantly at work in the city. As there are 2,500 places in the city where weights and measures are used, it is obvious that the public would not get their money's worth as they now do. As it is, there is a considerable amount of elasticity in trade customs which tend to the vendor's advantage. I suppose a 2lb. or a 4lb. is seldom asked for, and rarely supplied as such; people ask for this or that kind of loaf, which may or may not be the exact weight mentioned above. Similarly in buying liquids, if one asks for "a glass" of ale or stout, the size of the vessel is practically what the seller likes, and it may hold much or little. There is a story current that, at a certain city establishment, a little while ago, a customer called for "a glass of ale," with which the presiding Hebe served him, at the same time putting a good "head" on the nut-brown liquid in an elegantly-shaped but modest-sized vessel. The customer was apparently not thirsty; he looked at a newspaper for a minute or so, and then, finding that the froth had subsided, remarked: "I asked for a glass of ale." The barmaid took the hint, and substituted ale for froth, and well remembered the lesson when that particular customer called in future."

### The "Expert" and the Health of Callington.

ISENITES who claim the "Master" as a great sanitary teacher will be interested in some recent proceedings at Callington. The ratepayers met to consider the sanitary condition of the town and the reports of the Medical Officer of Health and the expert called in by the Liskeard Rural District Council. Dr. H. Davis, chairman of the Parish Council, who presided, said the scheme proposed by the expert (Mr. Andrews) would cost from £2,000 to £5,000. If Callington were a town of 20,000 inhabitants and constructing new drainage it might be a very good scheme, but it was not applicable to Callington.

Mr. Blight, in criticising the scheme and report of the expert, quoted the statement that "the sewers are obsolete and the west part of the town is practically one vast cesspit." If such a state of affairs existed would not the town be full of sickness? Yet, what was the actual fact? For 10 years there had been no zymotic disease—no typhoid, no diphtheria, and the death-rate was considerably under the average death-rate of the county. In fact, there was hardly a town in England which could show such immunity from disease.

Dr. Mole considered the sanitation of Callington was not what it should be. They had called in an expert and they ought to abide by his opinion. The money, which could be borrowed and spread over a period of 30 years, would not unduly press on the ratepayers, and money ought not to be considered when health was concerned.

Mr. J. Huggins spoke in the same strain.

Resolutions, expressing confidence in the Parish Council and their action, and condemning the proposed scheme, were passed with only two dissentients.

One forgets how many places were once like unto Callington, and found repentance costly. "Dear, dirty, Dublin," built on sewage, pays for past carelessness and ignorance a death tax enough to stagger humanity. When Callington's present filth and disease conservers shall be turned to clay their descendants, if there be aught in heredity may be found fighting another "Dr. Stockmar," who may be preaching the gospel of cleanliness. Worthing for years had no special outbreak of disease and greed and ignorance had a long innings. What it has cost Worthing and what price Dublin pays for filth conservation might be worth reckoning by Callington ratepayers.



### What the Sanitary Institute is Doing.

THE ordinary general meeting of the Sanitary Institute was held at Parke's Museum, Margaret Street, W., Sir Thomas Salt, vice-president, in the chair. The annual report of the council stated that the question of additional premises for enlarging the museum and extending the work of the institute had received the careful consideration of the council, and although the leases of the present premises had been renewed for another ten years these were scarcely adequate, and it had been decided to start a building fund, a proposal which was looked upon with favour by the president, the Duke of Cambridge. They had allotted £5,000 of the invested capital of the institute as a nucleus of the fund and further donations had been received, but some £25,000 was expected to be required. Many lectures and demonstrations on sanitary science had been given to the students, who, during the period over which the lectures had extended, had had the free use of the library and museum, and the committee desired to tender hearty thanks to the lecturers. Two new examinations had been established during the year, one for inspectors of meat and other foods, and the other in practical hygiene for school teachers. There had been a steady increase in the number of students brought to the museum by lecturers and demonstrators, showing an appreciation of the teaching value of the museum. The total in 1899 was 2,154, against 1,951 in 1898 and 1,674 in 1897. A comparison of the roll of the institute with that of the preceding year showed an increase in the number of members and associates, the total in 1899 being 2,324, against 2,130 in 1898. The adoption of the report was moved by Professor W. H. Corfield, seconded by Dr. W. Collingridge, and carried unanimously; and officers were elected for the ensuing year.

### Derbyshire Farmers and a Milk Standard.

A MEETING of the East Cheshire and North Derbyshire Farmers' Association was held at Chapel-en-le-Frith, on March 15th, Mr. H. Kirke, J.P., in the chair. Professor Dunston, of the University College, Nottingham, who is to give evidence before the Committee respecting the standards of milk purity, attended and spoke on the question, giving as his opinion that the standard of butter fat should be not less than 3 per cent., and solids, other than fat, 8.05 per cent. The meeting passed a resolution adopting this as their view, and Mr. Dunston said he should have pleasure in placing their views before the Committee.

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Mr. David E. Gordon, Greenock, who recently passed the Board of Trade examination, has been appointed Inspector of Weights and Measures and Inspector under the Sale of Food and Drugs Act, for the Burgh of Greenock, in room of the late Mr. David Young. The salary for the joint offices is about £150 year.

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### The Food and Drugs Acts in Huddersfield.

DR. ERNEST GEORGE ANNIS, M.O.H., reports that during the past quarter 22 samples were bought for analysis and were all found pure. Huddersfield seems to be excellently served by its sanitary department. During the last quarter of 1899, it could boast of no case of small pox and no case of diphtheria, whilst 33 large towns furnished 536 cases, perhaps Huddersfield will mark its recognition of this good work in an equally excellent way, by increasing the officials' salaries, because after all, paying a doctor to keep you well is far more sensible than paying him to cure you when ill.

## Milk Inspection by the New York Board of Health.

By HERMAN BETZ, M.D., Ph.G., of New York.

THE object of the present communication is to present a brief statement of the routine of milk inspection as carried on by the Department of Health in New York City.

The milk-inspector is appointed from the head of the list after passing a successful Civil Service examination, from which, until recently, all except physicians, pharmacists and chemists were barred. At an appointment of five some time ago four had above 90 points each to their credit after a most severe examination. The knowledge that such men bring to bear upon their work cannot fail to give satisfactory results. The use and handling of apparatus and scientific instruments is no secret to them, and they are, from the start, able to do satisfactory work. Their greatest strength is shown, however, in trials of milk cases, where shrewd lawyers are frequently employed on the other side, and where any one but a man with a scientific training would fail.

The milk-inspector is on duty, technically all the time; he may be called upon at any hour, day or night, Sundays as well as on week-days, for it is obvious that a dishonestly inclined milk-dealer, who behaves himself during the week, should not be left under the impression that he can do as he pleases on Sunday. I wish to say right here, however, that there are not any more dishonest men engaged in the milk business than in any other business, possibly less. The relation existing between milk-dealer and milk-inspector is much more cordial than it would be supposed; the Department of Health is always fair, and the milk-dealer is absolutely sure of that fact, for he very seldom contests nowadays the analysis or the result of analysis of a sample of milk.

There are now employed by the Department of Health ten milk-inspectors in the borough of Manhattan. I am using the borough of Manhattan for an illustration, although the same system prevails in all of the boroughs.

The borough of Manhattan is divided into nine milk districts, which makes it possible to have the entire borough constantly covered; the tenth inspector is required to take the place of any one who should be taken from his work by sickness or other reasons; this inspector also makes sanitary inspection in places where milk is sold, when he is not otherwise engaged. The nine districts are so arranged that an equal number, or nearly so, of milk places come within the boundaries of each, which means about 650 in each district on the east side and 700 on the west side.

The milk-inspector is obliged to spend from 9 a.m. to 4 p.m. in actual inspections, after which he writes out a daily report of every place visited by him during the day, giving the time by hour and minute, the name and address of the milk-dealer, the permit number under which the dealer does business, and the temperature and lactometer standing of the milk so examined.

The report must be in the Chief Inspector's hands by 9 a.m. each day. On Monday morning a weekly report also is handed in giving the number of inspections made each day, as well as the total number for the week, his attendance at court, and arrests and fines also must be carefully recorded.

The following instruments and utensils are supplied to the milk-inspector, which he carries about with him in a suitable satchel:

A lactometer; a thermometer (dairy style); a cylinder of tin in which to float the lactometer; lead seals and wire for sealing sample-bottles of milk; one seal punch with two dies, one impressing the lead with "Health Department, Manhattan," the other the inspector's letter which has been given him for his identification as A, B, C or D, etc.; a writing diamond, to mark sample-bottles; six ounce-bottles with two holes in neck opposite each other,



through which the wire is passed holding the cork immovable unless the seal and wire are disturbed, for dealer's sample; four ounce-bottles for samples of milk for analysis at laboratory; one box of labels, gummed on box, for marking above sample with inspection number, sample number and lactometer standing at 60° F.; a book of 50 labels to mark dealer's sample, as also a stub corresponding with same, which is afterward attached to the analysis report; a book in which is reported the year, month, day, hour and minute when inspection is made, the number of inspection, the name and address of the dealer, number of years in business, number of quarts sold per day, number of permit under which business is done, name and address of the wholesale milk-dealer from whom he receives his supply, the gross and net lactometer standing and the temperature of the milk examined, also physical properties, odor, taste and appearance, the name of person present when examination is made, whether proprietor of store or representative, and, lastly, the mark which is found on top of cover of milk-can.

The mode of inspection is as follows: When an inspector enters a place where milk is sold he announces this fact to the proprietor of the place or his representative. After he has satisfied himself that the milk is properly cooled and utensils for measuring are clean, he stirs the milk thoroughly, fills his tin cylinder within two inches of the rim, leaving room for displacement by lactometer; the lactometer is then carefully lowered into the milk, care being taken that the stem is dry. While the lactometer is allowed to come to rest, the thermometer is used to carefully note the temperature, this and the lactometer's reading are carefully entered in the inspection-book and for every three degrees of temperature below 60 degrees F. one degree is deducted on the lactometer, or added if the temperature is above 60 degrees F. Should the milk present a good appearance and stand somewhere between 108 and 112 degrees on the lactometer at 60 degrees F., the milk-inspector will pronounce the milk good, but if the milk should stand below 108 or above 112 degrees net on the lactometer, and not be of good physical appearance, he will consider the milk suspicious and proceed to take a sample from same, as follows: The proprietor of the milk-store, or his representative, will be asked if the milk is for sale. Should he state that it is for sale the inspector will ask him to stir the milk well himself and again test with thermometer and lactometer, calling the proprietor's or his representative's attention to the various points; should it be possible to procure another witness to the proceedings it is desirable to do so. The six-ounce bottle mentioned above is then filled up within a short space below the neck to allow sufficient room for expansion and the cork forced in well below the two perforations mentioned above. The wire is then passed through the orifice in the bottle, forced through the cork and out through the opposite perforation in the bottle, and then wound twice around the neck of the bottle and over the groove in the lead-seal, which is then forced down over the wire by the punch until it presents a quite flat appearance with the imprint on both sides, as described above, and from which the wire cannot be removed without destroying the seal and imprint. The sample is then labelled with the part of page which corresponds with the stub described, and which is gummed on the reverse side. Both stub and label are counterparts of each other bearing number of inspection, date, name and address of dealer, reason for taking sample, inspector's name and the number of sample. This bottle is then sealed and labelled as described above, and handed to the dealer or his representative, to be held by him, or to be given to a chemist for analysis if he so chooses. This is now done but seldom, dealers, both wholesale and retail, are so convinced of the absolute correctness with which analyses are made at the Department laboratory that they usually instruct their lawyers to concede the analysis. The four-ounce square bottle is now filled with some of the same milk, and to this is attached a square stick-label bearing inspection and sample number

as well as inspector's letter described before. The inspector now proceeds to the laboratory of the Department. When he arrives there he will hand the sample bottle to the chemist or assistant chemist in charge, who will sign a receipt for same on a ticket made out by the milk-inspector, on which are again given the milk-dealer's permit number, year, month, day, hour and minute of inspection, but the space for the milk-dealer's name and address is left blank for the time being; the ticket also gives the wholesale dealer's name and address from whom the retailer receives his supply, and the number of specimens of milk examined, their standing both by lactometer, thermometer, and net, also physical appearance. As this ticket is used by the inspector on the stand in trials to refresh his memory, it is made out with great care, and gives in addition to the above facts the recorded numbers of the instruments used, for it has happened in some important trials that the correctness of the instruments has been questioned. For this reason as soon as a lot of lactometers or thermometers is received from the manufacturer they are carefully tested in our laboratory; if they come up to the standard they are accepted, numbered and the record of the same is kept at the Chief Inspector's office; if they are found to vary perceptibly they are rejected. The same ticket also records the fact whether the can from which the sample has been taken was wired, the amount of milk the can contained, the fact that the milk has been stirred by the proprietor or his representative, the marks found on shoulder and cover of can, the location of the can in the store or place in which the milk was sold; whether the can contained a dipper, whether this inspection was made on the regular routine inspection or upon a complaint from a citizen, the total number of cans examined at that particular inspection, the name of the witness present at the time of inspection, and also a space in which to record the date on which the warrant was obtained. In case of prosecution the number of the City Magistrate's Court, the date when, and the amount of fine paid or the disposition of the case, whether dismissed altogether or sentence suspended. All this is recorded on the front of the ticket; on the reverse side is given, first, the receipt of the chemist for the sample, then the analysis as follows:

Water, per cent.; total solids, per cent.; fat, per cent.; solids not fat, per cent.; per cent. low in solids; per cent. low in fat; borax, present or absent; salicylic acid, present or absent; formaldehyde, present or absent; reaction, acid or alkaline.

The name of the assistant chemist who has performed the analysis is also given and countersigned by the chemist. This completes the ticket, as far as the inspector can complete it at that particular stage. The ticket with the stub is then handed to the clerk in charge of milk analyses in the Chief Inspector's office, which ends the milk inspector's duty for the present as far as this particular sample is concerned. The clerk in charge of milk analyses, just mentioned, enters up all the facts given in a book in which spaces are provided for all the facts given above; the ticket is then placed in an envelope with others which may come in on the same day, giving the exact time when received from the inspectors, when forwarded to the laboratory and when received back again. After forty-eight hours the analysis is finished and the chemist will then fill up the space provided for percentages of water, total solids, fat, &c., and whether the milk has been unadulterated or short in total solids or fat, giving the exact amount. The ticket is then immediately returned by the chemist to the clerk in charge of milk analysis, who enters up all the various facts found by the chemist and then fills in the name and address of dealer from the stub. The ticket is now ready for the Chief Inspector who will determine by the percentage of fat or total solids shortage whether an arrest is to be made or not. The rule followed at present is that the dealer is to have the benefit of the doubt up to four per cent. of solids and nine per cent. of fat, but if the shortage is five



per cent. or over in total solids, or a shortage of ten per cent. or over of fat, prosecution is at once to be started; such tickets are, therefore, signed by the Chief Inspector and stamped "Arrest" or "Do not arrest," and after the ticket has been countersigned by the Sanitary Superintendent the clerk in charge of milk analyses will notify the milk inspector that a ticket is awaiting him at the office for arrest. The milk inspector upon receipt of the ticket prepares an affidavit of the facts in the case and asks for a warrant for the milk dealer's arrest in the City Magistrate's Court in whose districts the violation has taken place. This warrant is usually granted and a day of hearing is set, the warrant is served by a court officer in as inoffensive a manner as possible; that is, by simply notifying the dealer that his presence is required in the court to which the officer is attached, for violation of the Sanitary Code by selling adulterated milk, and that probably it would be best for the dealer to bring with him a bondsman. At the day and hour set for the hearing the milk inspector states his case and requests that the defendant be held under bond for trial in Special Sessions. The City Magistrate usually names a bail amount of 100 dollars which the milk dealer furnishes through a friend, or in many cases the wholesale dealer who has furnished the milk furnishes the bail. If the defendant is represented by counsel, the council frequently requests a hearing, but the outcome is usually the same. After a lapse of but a short time the case is set down for trial at Special Sessions, where the judges without exception have taken great interest in these milk cases; some of them even have taken the trouble to inform themselves of the various stages of analysis, being present during an actual analysis at the laboratory. They are well posted in relation to the provisions of the Sanitary Code and the agricultural laws of this State relating to milk and dairy matters, total solids, fat, solids not fat, the name of antiseptics and like terms and their meanings which are usually so puzzling to outsiders, and even lawyers who try these cases understand them as well as any chemist. It is directly due to this intimate knowledge of terms facts and matters connected with the scientific part of milk analysis, and the recognition of the earnest efforts of the Health Department to improve the milk supply of the City of New York, that it has been able to carry on milk-inspection with satisfactory results; for what would all this work amount to did not the courts so ably and conscientiously carry out their part.

Tickets which have been used for prosecution are filed in a record cabinet in alphabetic order, separately from those where no prosecution was deemed necessary, or where upon analysis of the sample it was found that the milk was unadulterated.

Since 1896 the Department of Health has required every dealer in milk to take out a permit, in order to better regulate the care of milk and enforce the Sanitary Code. A prospective dealer applies at the Department office in person for a permit by filling out an application giving his name and address, the kind of business he is engaged in, the amount of milk—approximately—he expects to sell per day, the dealer from whom he is to derive his supply, the hour of day the delivery takes place and the can-marks he finds on the cans, also whether he intends to handle any condensed milk in bulk, and, furthermore, where he intends to keep the milk in storage while selling, if in an ice-box or in tubs, whether such receptacles are connected with the sewer or not. This application he signs and is then given at once a temporary permit, which he may show to the inspector when he makes his customary round; for it is one of the milk-inspector's duties to at once report any places where milk is sold without a permit. The temporary permit, therefore, is required to prevent confusion and unnecessary reporting. After the application mentioned above is placed on file, the name and address is given to the milk-inspector who is making his sanitary inspection as mentioned at the beginning of this article. Should this inspector find that the place is in a sanitary condition he

so reports at the office at once, and the application goes forward to the Board, and will very probably be granted at the next Board meeting. The inspector, however, may find that the place inspected is not in proper condition, and this may be due to various causes; the most frequent one is that there is but one room, without any partition, and the proprietor of the place, or his help, sleep in the rear part, or the rear part is used for other domestic purposes; or the place is kept in an unclean condition, or the receptacles in which the milk is kept are not proper; in all such cases the inspector will give directions as to what necessary changes have to be made to put the place in proper shape. A reasonable length of time is given to make the change, the regular permit in the mean time is withheld; if, however, at the next inspection nothing has been done to bring about the sanitary condition necessary, the permit will be refused and the dealer compelled to give up the sale of milk. After the granting of the permit the dealer calls for it, issued to him without charge but it is revocable at the pleasure of the Board of Health, and must be hung up in a conspicuous place; for that purpose the permit is printed on heavy cardboard. This permit need be renewed, but should a dealer be twice convicted of the sale of adulterated milk the permit will be taken from him, revoked, and the Department will never allow him to sell milk again. For this purpose a record is kept at the Department of all dealers and their convictions, on cards especially adapted for that purpose.

The wholesale dealer is obliged to furnish more direct information if he received his milk from the farms; he must give the farmer's name and address, the station from which the milk is shipped, and the railroad carrying same; also the time of arrival of the milk at the terminal station and the number of hours the milk is in transit. In addition to this he must furnish the name of the breed of cows the farmer keeps, the number of cows and the water-supply for the cows and the water used for cleaning cans and other utensils. If a creamery supplies the milk a special blank is filled out giving the name of every farmer contributing milk to this particular creamery and all other information required, as in the case of the shipment by the farms direct. The permits issued to the wholesale dealer will be as many as the wagons he employs; he is also obliged to give the name of the driver employed and the driver's address. These permits are to be carried by the driver, and the number of same must be painted on each side of the wagon in some contrasting colour to that of the wagon and in letters one-half inch wide and two inches long. There are at present 7000 store-permits and 1800 wagon-permits in existence.

An arrangement exists between the Department of Health of New York City and the Boards of Health of the various States from which milk is shipped to New York to immediately notify this Department if any contagious or infectious diseases have broken out at any town, village or settlement within their jurisdiction from which milk is shipped, this information to be given by telegraph, upon receipt of which the Department takes steps to immediately quarantine the milk from that particular place. In order to do this effectively a record is kept at the Department of the various railroads and the districts they tap, the party who receives milk from such places in this city and the amounts received. This record has been on several occasions of the greatest service in preventing the spread of disease. The compilation of this record is the work of one of the milk-inspectors now employed by the Department, and required rare tact and ability and unceasing work for nearly six months; not in the day-time, but principally at night and in all kinds of weather, because ordinary information could not be relied upon, but had to be verified by actual count and checking at the various depots, ferries and receiving stations, at the arrival of the milk-trains; but the work was splendidly done and the record is to-day, with occasionally changes and additions, one of the most highly prized in the possession of the Division of Milk Inspection.



## Gold Storage Notes.

### Scottish Cold Storage and Ice Company (Limited).

THE Fourth Annual General Meeting of the Scottish Cold Storage and Ice Company (Limited) was held on March 26th, within the registered offices of the company, 145, Queen Street, Glasgow. The report recommending a dividend of 2 per cent., which with 4 per cent. interim dividend, makes 6 per cent. for the year (free of income tax), and relative balance-sheet were adopted, the balance carried forward being £706 7s. 8d. The Chairman (Mr. Simons) stated that the business was growing daily, and that a further space would be insulated before the summer season arrived, thus adding largely to the present storage accommodation. Arrangements were also completed by which the output of ice would be considerably increased. Messrs. James T. Tullis and Hugh Lamberton were reappointed directors, and the auditors, Messrs. Thomson, Jackson, Gourlay and Taylor were likewise reappointed.

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### The Canadian Government assists Cold Storage Stations.

THE Canadian Legislature on March 14th, considered the need for the extension of Cold Storage.

The Hon. Mr. Dryden introduced a bill to provide for the establishment of co-operative cold storage stations. This was, he said, only part of the legislation which the Government proposed to bring in regarding cold storage. The bill proposed to encourage throughout the Province the establishment of cold storage stations by municipalities by granting them assistance to an extent not exceeding one-fifth the total cost, until the latter reached 2,500 dollars, so that no grant could exceed 500 dollars. The encouragement given to cheese factories had been found to work admirably. The bill further provided that the buildings erected would be inspected by an officer of the Public Works Department.

The Premier added that in a few days he hoped to bring down a bill authorizing municipalities to issue debentures for the erection of cold-storage stations. One or more municipalities could unite for the erection of such stations either within their boundaries or elsewhere. The Government would also make provision that a grant should be paid out of the consolidated revenue to the extent of one-fifth the cost of the station, provided that grant did not exceed 500 dollars.

\* \* \* \*

### Refrigeration and Insulation.

A PAPER with the above title was read before the Shipmasters' Society by Mr. F. Seaton Snowdon on the 22nd March, Captain D. Wilson-Barker being in the chair.

The paper dealt with the rise and progress of refrigeration on board ship, and showed how the imports had grown from 17,275 carcasses in 1881 to 9,000,000 carcasses last year, the million being reached in 1886. From the pioneer vessel of twenty years ago, the author quoted *The Ice and Cold Storage Directory* as his authority for stating that there are now 550 vessels, British and foreign, fitted for the trade, two of these vessels, the *Suffolk* and *Norfolk*, being each capable of carrying 130,000 carcasses apiece. Reference was also made to the improvements in refrigerating machinery, and to its wide application to war and passenger ships and other vessels not actually engaged in the meat-carrying trade. The author, at the outset, disclaimed any intention to dilate upon any particular type of machine, stating that the machines of all first-class makers left little, if anything, to choose between them in regard to efficiency. The heat eliminating value of the different refrigerating agents was dealt with,

as were also the different methods of arranging the refrigerator, whether on the "direct expansion," "air circulation," or "brine pipe" system, and tables were given from which the necessary calculations for obtaining the required cooling effect could be made.

Dealing with insulation, the author said that air, which formed the earliest refrigerating fluid, forms also one of the best and cheapest of insulating materials, provided that it is so imprisoned or confined as to be devoid of all motion. Now it is obvious that the mere confinement of air between two walls does not stop its motion, and, unless the air be so "imprisoned" that it cannot move in any direction, heat will be rapidly transmitted by it, as the air will move about the cavity, its direction of motion being, of course, from the hottest to the coldest points, and, therefore, heat is constantly being conveyed by it from the outside walls to the freezing chamber. In this connection it was mentioned that silicate cotton owes its great efficacy as an insulating material to the fact that it is capable of absolutely "imprisoning" comparatively large volumes of air, and thereby preventing any motion of the same. Its name, however, is a misnomer, and often leads to the belief that the material is ordinary cotton treated in some way with silicate, whereas it is a vitreous substance, obtained by forcing a jet of steam through molten slag, analysis showing that it consists of about 33 per cent. each of silica, alumina, and lime. The product is like spun glass, and, being very prickly, no vermin will harbour in it. It is entirely free from any liability to spontaneous combustion, and has the further advantage of being incapable of generating any bad odour, while each cubic foot of the crude material being expanded in the process of manufacture into some 12 cubic feet of the finished article, it obviously imprisons about eleven times its volume of air.

An insulating material, known as "Nonpareil" cork, is now being extensively used in the American Navy, and in the ships of the American Red Star Line. This is really granulated cork, made by compressing cork chips under hydraulic pressure in iron moulds, and heating the mass while in the mould to a temperature of about 500° Fahr. This liquefies the natural gum of the cork, and forms the interstices between the granules into small closed air spaces. As the moulds cool, the gum hardens, and the mass forms a solid sheet of natural cork. This material is the lightest insulation that can be used, weighing only 1 lb. per square foot, 1 in. thick, and as a non-conductor of heat it is 13 per cent. better than hair felt, 40 per cent. better than sawdust, and 50 per cent. better than loose cork chips. In six men of war 6 in. of "Nonpareil" cork has replaced 13 in. of charcoal, and with better results. The saving of freight space that could thus be effected is an important feature. An interesting discussion, in which Captain A. S. Thomson, C.B., Captain T. Mackenzie, the chairman, and others took part, followed the reading of the paper.

\* \* \* \*

### Sunderland Cold Storage and Ice Company Limited.

REGISTERED on March 22nd, by Waterlow Brothers and Layton, Limited, Birchin Lane, E.C., with a capital £25,000 in £1 shares. Object, to carry on the business of cold storage proprietors, warehouse and storekeepers, preservers of foodstuffs, and produce, &c. The first directors (to number not less than three nor more than 10) are R. C. Thompson (chairman), R. Murray, Cuthbert Vaux, Herbert Webster and Christopher Charlton. Qualification, £300. Remuneration, £200 per annum, divisible.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**SEIDLITZ POWDERS: AN IMPORTANT POINT ON LABELLING.**—At Seaham Harbour, on March 23rd, George Brown, wholesale dealer, Newcastle, was summoned by Mr. B. Scott Elder, Chief Inspector under the Durham County Council, in respect to the Food and Drugs Act, for that he did sell to William Davison, general dealer, of East Murton, certain compound drugs, to wit, Seidlitz powders, which were not composed of ingredients in accordance with the demand of the said purchaser. Mr. Elder conducted his own case, and defendant was represented by Mr. H. E. Richardson, solicitor, Newcastle; and Mr. Fenwick, of the firm of Ingledew and Fenwick, watched the case on behalf of an interested client. Mr. Elder, in opening his case, not only took exception to the composition of the powders, but alleged that the label, which described the powders as "Effervescing saline powder, formerly called Seidlitz powders; not in accordance with the British Pharmacopœia," was false. The words "Seidlitz powders," he pointed out, were the largest type, and displayed in one line. He would show by evidence that Seidlitz powders were ordered by Mr. Davison, and that the powders in question were supplied, but invoiced as Seidlitz powders. Mr. Elder said he had determined in this case to proceed against the wholesale people. In this instance he believed that the retail dealer was as innocent as their workshops were. The penalty was up to £20, and if he proved the charge he would ask for a conviction, leaving it in the hands of the bench as to the amount of fine imposed. Mrs. Davison, wife of William Davison who said she conducted her husband's business, said she bought and sold the powders simply as Seidlitz powders. She gave the order to Mr. Brown, jun., who made no remark. The powders were invoiced as Seidlitz powders, which she thought were supplied to her. It was only when Mr. Elder called and bought for analysis that she began to suspect the wording on the label. Mr. Scott Elder gave evidence of purchasing six Seidlitz powders from Mrs. Davison. Witness told the seller they were to be analysed. Mr. Elder handed in the certificate of Mr. Stock, county analyst, of Darlington, as evidence, showing that the powders were deficient in 33 per cent. of sodium potassium tartrate, 35 per cent. of sodium bi-carbonate, and 26 per cent. of tartaric acid. This was all the evidence offered. Mr. Richardson contended that the powders were not sold as genuine Seidlitz powders, nor were they described as such. It was intended to supply something which in the label bore a qualification, and which was distinctly stated as not of the kind according to the formula. The powders were sold as effervescing saline. The magistrates retired with their clerk (Mr. W. A. Ellis), and on returning into court the Chairman said the bench were satisfied that defendant had infringed the law, and that Seidlitz powders were ordered, but not supplied. A penalty of £5 was imposed, with 12s. 3d. costs.—The charge against Mr. Davison was, at the request of Mr. Elder, who asked permission from the bench to do so, withdrawn.

**VINEGAR PROSECUTION.**—At North London Police Court, on March 27th, Sanders Brothers, grocers, 256, Globe Road, Mile End, E., were summoned for selling, at their branch, 193, Blackstock Road, vinegar which was not of the nature, substance, and quality demanded. Dr. Teed, the public analyst stated that the vinegar contained

5.10 per cent. of acetic acid, 0.46 per cent. of solid matters, and 94.44 per cent. of water, &c. The ash was 0.02 per cent., containing traces of phosphoric acid. Mr. Bramall prosecuted for the Islington Vestry; Mr. Holloway was for the defence. Mr. Bramall said in this case vinegar made from acetic acid had been sold when malt vinegar was asked for. Inspector Fortune said he asked for a bottle of malt vinegar. A man named Stonham, who was an assistant to the defendants, served him. He said that the vinegar was 3½d. a bottle. In cross-examination the witness said that he had an opportunity of reading the label, and that contained no statement indicating that it was "malt" vinegar. He did first ask the man if he sold vinegar, but he mentioned the word "malt" twice. The assistant did not say that he did not know if it was malt. It was true that he spoke to another assistant, but witness did not hear what he said. By Mr. Bramall: He first bought some ginger, and then asked for the vinegar, but he was careful to say that he wanted "malt" vinegar. Dr. Frank Teed said that he analysed the sample, and found that it was not malt vinegar. Malt vinegar contained more solids and was considered of a finer flavour. In reply to counsel for the defence witness said that, although this was not a "malt" vinegar, if sold to him as "vinegar" he should not complain. Some vinegars were made from acetic acid, and some in other ways. The chemical result was the same, but the flavour and aroma of the malt vinegar were the pleasantest. Charles Stonham said that he was manager to the defendants at their Blackstock Road Branch, and he remembered the inspector calling. He first asked for ground ginger and then for the vinegar. As he repeated the order "malt" vinegar, witness, who had only taken the situation the previous day, turned to his predecessor and said, "Is this malt vinegar?" and the reply was "Table vinegar." He could not say whether or not the inspector had then paid. By Mr. Bramall: He did not know the difference between malt and other vinegars. He had previously been in the corn trade. Fitzwilliam Hand said that when the inspector inquired if it were "malt" vinegar they said they did not know. Mr. Holloway argued that there was no intention to deceive the purchaser nor any pretence to sell the vinegar as malt vinegar. The vinegar in question was manufactured in France for the defendants, who were in a large way of business, and no question could be raised as to its purity. He submitted if any offence had been committed it was of a purely technical character. Mr. Fordham said the point for him to consider was simply this, had the inspector got what he asked for? He was satisfied that the inspector had asked for malt vinegar, and the certificate of the analyst proved that it was vinegar made from acetic acid. They had evidence also that the vinegar was perfectly good, the only difference being that the flavour and aroma were not so fine as in the malt vinegar. He should fine the defendants £3, with £2 2s. costs.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Oldbury, on March 27th, Henry Vaughan, Market Place, was summoned for selling butter that was not of the nature and quality demanded by the purchaser. The analyst reported that the article contained 58 per cent. of foreign fat. Defendant said his assistant supplied the margarine in mistake for butter. Fined £1 11s., including costs.

At Dublin, on March 28th, James O'Reilly, 65, Summerhill, was summoned for having exposed for sale margarine to which no label was attached. Inspector Keogh said that when he called the attention of the assistant in the shop to the absence of the label he took up the label from the back of the margarine parcel, where it was hidden away from the public view. A fine of £2 and costs was imposed.



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## Food and Sanitation.

SATURDAY, APRIL, 14, 1900.

### Parliament and the Flash-Point of Mineral Oils.

THE House of Commons has once more adjourned and the pledge given by Mr. Jesse Collings on behalf of the Government to deal with the "Flash-point" has again been broken. Honourable and Right Hon. Members of the House of Commons have seldom shown themselves so shameless as in this "burking" of legislation, and "murder" of scores of people yearly to the order of Rockefeller and his gang. *The Chemical Trade Journal*, this journal, and *The Star*, in spite of the

influence and "hush money" of which so much was lavishly expended in the lobby to secure the defeat of Mr. Reckitt's bill, have kept the truth before the public, and shown in all its hideousness the callous indifference of the Home Secretary to the roasting alive of one inhabitant of these islands per day. We have done more, because powerful as the Standard Oil Co. is, and unscrupulous as are its supporters in the Government and its lobby hirelings, the truth is slowly making its way amongst the people. There is an enormous decrease in the consumption of the deadly 73 deg. as shown in the following gratifying report of the London County Council:—

"Two hundred and twenty-nine lamp accidents were investigated by the Council's inspectors during the year 1899. Of these, 207 were unattended by loss of life, but 22 cases were fatal, involving the loss of 23 lives. These figures fortunately show a considerable diminution from those of the previous year, the total number of lamp accidents in 1898 having been 305, of which 274 were non-fatal and 31 fatal, involving a loss of 34 lives. It is difficult to give in a positive manner the reasons for the diminution in the number of lamp accidents, but it may probably be traced to the increased quantity of high-flash Russian oil now being imported into London. The imports of American and Russian oils in London during the years 1898 and 1899 were as follows:—

	1898.		1899.
American	... 68,488,854 gals.	...	56,989,884 gals.
Russian	... 25,696,608 "	...	35,943,054 "
Totals	... 94,185,462 gals.	...	92,932,938 gals.

"It will be seen that while the imports of American oil decreased nearly 11½ millions of gallons in 1899, the imports of Russian oil increased nearly 10¼ millions of gallons, and there is little doubt but that a very large percentage of this increased quantity consisted of Russian oil with a high flashing-point. It is also to be noticed that in the twenty-two fatal accidents which were investigated last year, samples of the oil were obtained in nine cases, but none of these samples included a high-flash oil; while in the remaining cases, where samples were not obtainable, the result of the inspectors' inquiries showed that the oil in use was either American or low-flash Russian. The experience of the past year further indicates that the use of only high-flash oil in lamps would considerably reduce the number of lamp accidents, and we consider that the Home Secretary should be urged by the Council this year—as he was last year—to bring in a Bill for the raising of the flash-point as recommended by the Select Committee on Petroleum, or to support a Bill for that purpose. We recommend—'That a communication be addressed to the Home Secretary urging the Government to introduce or support a measure for raising the statutory flash-point of petroleum, fixed by the Petroleum Acts, from 73 deg. Fahr. to 100 deg. Fahr. (Abel close test).'"

The report was agreed to without discussion.



Again at Bradford the Inspectors of Weights and Measures discussed the question, and Mr. Talbot Kyle and others showed that the real danger in using petroleum was thoroughly appreciated by the Inspectors.

There appears to be no use in appealing to Sir Matthew White Ridley's honour or humanity. Fortunately

a General Election is not far distant, and when it does come the direct responsibility for these roastings alive by order of Rockefeller and Co. must be charged to the Home Secretary and Mr. Jesse Collings, should they have the effrontery to seek re-election. The House of Commons ought at least to be purged of these gentlemen.

## The Superiority of Margarine over Butter as Generally Sold.

Scientific Facts for the Consideration of Boards of Guardians, Masters of Large Institutions, and the General Public.

[COPYRIGHT].

IS THERE any advantage possessed by butter over margarine which justifies butter being sold at double the price of margarine?

Frankly speaking, it must be owned that there is nothing to warrant butter being sold at a higher price than its rival, and furthermore, all investigations prove that margarine is, pound for pound, worth far more to the consumer than butter.

This latter statement is so contrary to ordinary opinion, that it will need unassailable proof, both scientific and practical to support it.

The accepted belief in the superiority of butter over margarine is a costly superstition, the truth being that margarine is in the main more healthful—because it is more cleanly prepared and more economical, because it is not a medium of fraud as butter is, and finally, it is as nutritious as butter at half the price.

### WHAT MARGARINE IS MADE OF.

The detractors of margarine allege that it is made from objectionable fats, but exhaustive investigations have proved that the fats used in manufacturing margarine are wholesome and excellent in quality.

### THE PUBLIC FOR YEARS HAVE EATEN MARGARINE BELIEVING IT TO BE BUTTER.

No one considers the fat on a joint of beef as objectionable, and it therefore seems strange that the same healthy fat should be looked upon as a suspicious article of diet when made into margarine. The very persons most prone to turn up their noses at the eating of margarine are those who unknowingly eat it daily at hotels and restaurants, and consume it in their own houses under the full belief that it is butter. Mr. Otto Hehner, late President of the Society of Public Analysts, who has a larger acquaintance with analysis of butter than any other food analyst, says:—

"In the summer months, when butter is cheap, there is little adulteration; but as the winter comes on, it pays to mix it with margarine, which can be bought for sixty shillings the hundredweight, while good, genuine butter costs from a hundred to a hundred and thirty shillings. In analysing butter for the trade, I found that in November, 55 per cent. of the samples were adulterated, in February, 54 per cent., and in March, 68 per cent. It all arises out of the mania for cheapness. I have known the butter coming from a Continental country to be perfectly pure. Suddenly, in response to demands from the buyers for a reduction in price, one or two men would undersell their competitors by, say, a halfpenny a pound. They did this, of course, by mixing the butter with a margarine. The result was that in a few days the whole country-side followed their example, and the English market was inundated with adulterated butter."

### MARGARINE REQUIRES ABSOLUTE CLEANLINESS.

Mr. Battershall, F.C.S., Analyst to the United States Laboratory, New York, and Dr. Sharples, after exhaustive investigations, found that inferior fats no matter how treated chemically, cannot be used in the preparation of margarine. Furthermore, margarine in its manufacture requires the most perfect cleanliness. Mr. Battershall after his investigations, acknowledging in his report to the United States Government that "Absolute cleanliness is a *sine qua non* in the successful manufacture of margarine."

### HOW BUTTER IS MADE.—MR. RIDER HAGGARD'S DISCLOSURES.

We have no wish to lead anyone to believe that *all* butter is prepared under the conditions here disclosed because that would be as untrue of butter as are the aspersions now cast upon margarine. Recently Mr. H. Rider Haggard in "A Farmer's Year" said of the making of Brittany butter, "What matters it to them that an ancient and festering midden heap stands before the door of the dairy, or that the water with which the vessels are washed is practically a concentrated sewage fluid, or that the butter is treated with boracic acid." Of the dairy farming in his own district, East Anglia, Mr. Haggard says, "I noticed that the shallow edge of the water was simply full of frogs (some of them dead) and spawn. This pond supplies drinking water for the farm."

### MARGARINE HAS CAUSED IMPROVEMENTS IN DAIRY FARMING.

Since clean healthful margarine came as a formidable rival to butter there has been an improvement in butter making at home and abroad, but there are thousands of dairy farms to-day where the water, the milch-cows foul, is the water used for drinking and washing dairy utensils.

### THE PUBLIC ANALYST FOR CHESHIRE ON DAIRY FARMS AND FILTH.

The public analyst for Cheshire, Mr. J. Carter-Bell, reported to the Local Government Board,—"*Milk sometimes reaches me not with the sweet country odours one associates with the meadows and flowers, but rather with odours more connected with garbage and filth.*" This is not to be wondered at when one sees the rotten manure heaps piled up close to the milk sheds. It is a well-known fact that milk readily absorbs odours, transmitting, not only the objectionable odour, but other, and in many cases more serious, dangers. The technical educator cannot too strongly impress upon the rising generation of farmers to "wash and be clean."

### BUTTER-MAKING AND TYPHOID.

It is proved universally that this picture of our system of butter production is true, and that tuberculosis, typhoid fever and other diseases are disseminated from such dairy farms.

Ayr had 160 cases of fever from infected milk, and Paisley only recently stamped out an epidemic from the



same causes. When such milk is made into butter these disease germs are not destroyed but are in the *butter* which affords an ideal medium for disease germs to propagate themselves.

#### MARGARINE-MAKING DESTROYS *all germs*.

In margarine making the beef fat undergoes processes which destroy any germs which might spread disease.

#### IS THERE ANY REAL DIFFERENCE IN PURE BUTTER FAT AND THE FAT IN MARGARINE?

Science has not up to now been able to say with certainty whether the fat in milk comes direct from the food eaten by the cow or from the stored up fat in the animal itself.

Why this stored up fat should be looked upon as inferior when it is made into a palatable and healthful substitute for butter is one of those things only accounted for by ignorance of scientific facts and prejudice.

#### HOW BUTTER IS ADULTERATED AND THE PUBLIC SWINDLED.

Unless the butter buyer gets his butter from a dairy of whose *bona-fides* he has absolute proof it is very rarely that he buys pure butter. What he buys is butter plus margarine for which he pays butter price. It is only in the pocket that he really suffers, because as shown already margarine is in the main a better article. The fact is that butter varies so much in its composition owing to differences in breed of cows, in soil, climate, and in feeding that no analyst, however much he may suspect adulteration, can honestly swear to it should margarine be present in butter in the proportion of 10 to 15 per cent.

#### UGLY TRUTHS ABOUT DANISH BUTTER.

The Danes, for instance, persistently allege that their butter is pure, but they know to a fraction how much margarine they can mix with butter to avoid condemnation by English public analysts. The enormous growth of their margarine industry demonstrates the falsity of their professions. Their latest returns show that they possess seventeen margarine manufactories, and that no less than 27,983,556 lbs. (Danish) were manufactured as against 23,720,569 lbs. in the preceding twelve months, 4,257,511 lbs. (Danish) were also imported from Germany, Holland, Norway, and Sweden. What becomes of the enormous quantity of margarine manufactured and imported, 32,241,067 lbs. (Danish) is not disclosed, but one fact is clear—the amount which Denmark exports as margarine is hardly worthy of mention.

#### THE DANES ADMIT THE SUPERIORITY OF MARGARINE BY EATING IT IN PREFERENCE TO DANISH BUTTER.

The Danes allege they consume the margarine themselves and send us their butter, thus admitting not only the purity and healthfulness of margarine, but its superiority to their own product. The truth appears to be they eat some, and the rest is sold at more than twice its current price to us as Danish butter.

#### BRITTANY BUTTER REGULARLY CONTAINS MARGARINE.

Brittany and other great butter producing centres also import large quantities of margarine which enter the gates of the large butter factors as margarine and come out mixed with butter.

#### THE EXCESS WATER IN BUTTER FRAUD.

Properly made butter ought not to contain more than 15 per cent. of water, but by various devices makers can get one fourth of the supposed butter to consist of water made to stand upright and sell at butter price. On January 12th, 1900, at Thames Police Court, a trader answered an Adulteration Act summons for excess water in butter. Mr. G. H. Young prosecuted, and said there was 14 per cent. of water over and above the 15 per cent. allowed in the manufacture of butter, *i.e.*, 29 per cent. of water. Mr. Dickinson, in giving his decision, said he found that water had been added for the purpose of manufacturing butter for commercial purposes, and not with a fraudulent intent. Therefore the summons would be dismissed, with £3 3s. costs.

#### NO EXCESS WATER IN MARGARINE.

For the purpose of determining the water percentages in margarine we caused several samples to be analysed with the result that the moisture averaged 11 per cent. Samples of Danish, English, and Irish butters analysed at the same time showed 13·30 to 18·50 per cent. of water present.

#### MARGARINE CONTAINS LESS SALT THAN BUTTER.

In these samples the salt in margarine was only one-and-a-quarter per cent., whilst in butters it reached as high as 4·15 per cent.

#### THE CHESHIRE PUBLIC ANALYST ON EXCESS WATER AND SALT IN BUTTER.

Mr. J. Carter-Bell, public analyst for the County of Chester, has come across butter that contained 38 per cent. of water of which, he says, "*the chief use of the butter fat was to hold the water and salt together, for the water and salt constituted 50 per cent. of the mixture.*" After keeping this precious butter "*for a fortnight, 18 per cent. of the water and salt had run out.*"

These facts ought to open the eyes of the public to the folly of the prejudice entertained in many quarters against margarine, and to the enormous saving its use would bring about were it substituted universally for its far more expensive, and less valuable rival butter.

#### MARGARINE OF GREAT VALUE IN WASTING DISEASES.

The *Scientific American* appreciates the value of margarine to the extent of recommending it as a substitute for butter in the diet of consumptives, and also as a companion product if not a substitute for cod-liver oil. It says:—

"The problem of nourishment in wasting diseases is perennial. In most instances the balance between waste and repair is greatly to the credit account of the former, despite all the resources of the medical art. . . . With the first introduction of cod-liver oil, it was believed that the problem of nourishment in wasting diseases were solved. But there is nothing magical about this oil. Save as an easily digested fat, it is valueless."

"Mineral oils (which under the name of petroleum emulsions are advertised and recommended as substitutes are utterly devoid of nutritious properties."

#### WHY BUTTER IS INFERIOR TO MARGARINE FOR CONSUMPTIVES.

"In every day life butter is very essential. Its free use by sufferers from wasting diseases is to be encouraged to the utmost in so far as it can be borne, but unfortunately an excess of butter diet, even in a healthy organism, is apt to give rise to butyric dyspepsia, and butyric fermentation is set up largely through the presence of a ferment—a residuum left by the butter milk."

"Considering the foregoing, it seems strange that margarine has not been thought of as a palatable and suitable article of diet for those suffering from wasting diseases. It is free from all objections. A good margarine can only be had by employing the very best and freshest of fat. This 'artificial butter' is as purely wholesome (and perhaps even better as food) as the best dairy or creamery product."

Jollies and Winkler, who are the official chemists for the Austrian Government, after a very thorough investigation, announced, through the columns of the *Zeitschrift für Hygiene*, that the only germs ever present in margarine are the variety common to air and water. Although carefully sought for, tubercular bacilli and other obnoxious bacilli were conspicuously absent. They also found that butter is especially liable to be contaminated, inasmuch as the best process of manufacture failed to eliminate all the lactic acid ferment, the action of which even salt cannot neutralise, save for a very brief period.

"It is surprising the amount of fat that a consumptive finds it possible to consume when employing margarine instead of butter."

This is the testimony of one of the foremost scientific journals in the world.



## Official Reports and Notes.

### Qualifications of a Borough Analyst.

In the newspapers a fortnight ago, says a correspondent of *The Chemical Trade Journal*, I noticed an advertisement for a public analyst from a Lancashire borough, in which the candidate is asked to submit documentary evidence of his knowledge of analytical chemistry, therapeutics, and microscopy, and I must confess I was fairly staggered at the requirements. I observe from your issue that the Local Government Board stipulates for such evidence before giving their sanction to the appointment of an analyst, and I have since learned that this step has been taken at the request of the Institute of Chemistry, which seems to have taken public analysts under its wing. It seems to me that this new regulation will work somewhat unfairly to the older analysts. There are, within Lancashire even, several gentlemen now holding office as public analysts who, if they desired to make another application, could not give documentary evidence of their knowledge in the subjects stated above, and yet no one will question that they are efficient analysts. There are also other gentlemen engaged in the profession of analytical chemistry whose ability no person will deny. They are in every way qualified to become public analysts, and I for one would prefer to trust these in preference to a young man fresh from college, and yet these gentlemen I am certain could not furnish documentary evidence of their knowledge of therapeutics and microscopy. Now, if the Institute of Chemistry wanted to act fairly and squarely with all established and reputable analysts, they ought to have provided a clause under which they would at once be eligible for the post of public analyst without being required to furnish this specific form of documentary evidence, which I take it really means, certificates of having passed the Institute of Chemistry's examinations in the subjects named—examinations, too, which have only been instituted during the past twelve months or so, and have only been passed by a few candidates as yet. If the qualifications for a public analyst are to be legal and definite, then the matter must be dealt with as was done with chemists and druggists when the Pharmacy Acts were passed, *i.e.*, all who are qualified must be enrolled on a register kept either by the Institute of Chemistry or the Society of Public Analysts, and the fact of being thus enrolled should be recognised as the qualification for a public analyst; all *existing* analysts publicly practising their profession to be enrolled without examination, and all future ones to be examined by a recognised authority.—

I am, &c., P. A.

### Adulteration in Leicester.

THE inspectors of food under the Public Health Acts had during the quarter found the following articles unfit for human food, *viz.*:—Meat, 1 ton, 19 cwt. 3 qr. 17 lb.; fish, 4 cwt. 1 qr. 16 lb.; 336 rabbits, and 234 head of poultry. Thomas Knight, 20, King Richard's Road, was prosecuted on the 3rd of February, for exposing for sale for human food a quantity of unwholesome fish, and was fined £5 or one month's imprisonment. Thirty-six samples of milk, 6 of butter, 6 of bread, 3 of coffee, and 3 of pepper had been analysed during the quarter. On the 5th January, W. H. Smith, Bedford Street, and S. Newton, Britannia Street, were prosecuted for selling milk deprived of part of its cream, when the former was fined 20s. and costs, and the latter 40s. and costs. On the 16th February, William Elliott, Charles Street, was prosecuted for selling milk adulterated with 6 per cent. of water, and was fined £2 and costs. Two other samples of milk were found to be of very poor quality, and the vendors were warned.

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### Bedford Town Council and Weights and Measures.

THE Council resolved, upon the proposition of Ald. Moulton, from a recommendation of the Estates Committee, the following:—That in future no fees be charged for the verification and stamping of such weights, measures and weighing instruments submitted to the Inspector of Weights and Measures as may be found to be correct and duly stamped; and that only the actual cost of adjusting weights, measures and weighing instruments be charged to traders submitting the same to the Inspector.

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### The Board of Agriculture and Preservatives in Cream.

MR. LONG, in the House of Commons on April 5th, answering Mr. Lambert, said that his attention had been called to reports of recent prosecutions for adding preservatives to cream which had resulted in conflicting decisions, but he had no power to interfere with the exercise of the discretion of the local authorities, by whom proceedings under the Sale of Food and Drugs Act were initiated. He had no doubt however, that those authorities would bear in mind the fact that a departmental committee was now making a full inquiry into the subject of the use of preservatives in food. The matter was not one which fell within the purview of Lord Wenlock's Committee on Milk Standards.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

BORIC ACID IN CLOTTED CREAM—HUDSON BROTHERS' APPEAL ABANDONED.

It was stated at the County of London Sessions on April 6th, that the appeal of Messrs. Hudson Brothers, London (Limited), against a conviction by Mr. James Shiel, magistrate at the Westminster Police Court, for "unlawfully selling to the prejudice of the purchaser an

article of food which was not of the nature and quality demanded," had been abandoned. Messrs. Hudson Brothers, it will be remembered, were fined £10, and ordered to pay 30 guineas costs for, as was alleged, selling cream containing boracic acid.

UNSOUND CONDENSED MILK—ACTION IN THE HIGH COURT.

In the High Court, before Mr. Justice Ridley and a common jury, Mr. Arthur Payne, grocer and provision dealer, of 25, Bagshot Street, Walworth, brought an action against Mr. Thomas Paice, dealer in condensed milk, of Mark Lane, London, E.C., for damages for breach of warranty in the sale of two parcels of condensed milk. It appeared that on July 31st last the plaintiff gave an order to the defendant's traveller for "50 cases separated condensed milk, each 48 tins, irregular job line, free from blown and pricked tins," at 6s. 6d., and on



August 14th a similar order for 108 cases at 6s. 4d. The 158 cases were delivered in accordance with the orders, and on September 4th they were examined at the plaintiff's warehouses by the plaintiff and by a man from the defendant's office for the purpose of ascertaining whether there were among them any "blown" or "pricked" tins. "Blown" tins are tins in which the milk has gone bad and has thrown off a gas which causes the tin to swell. Tins are described as "pricked" when the expansion of the gas has caused them to burst. Forty-one of the cases were found to contain tins which were either "blown" or "pricked," and they were accordingly rejected, the plaintiff paying for the remainder the sum of £37 7s. 3d. The plaintiff, having an earlier consignment of the defendant's condensed milk in stock, did not require to sell any of the goods ordered on July 31st and August 14th until about six weeks after they were delivered. At the end of that time the plaintiff sold a few tins, which were immediately returned to him by the customers. The milk which they contained was unfit for food. The plaintiff thereupon requested the medical officer of health for the district to examine the whole consignment. The medical officer, having examined a few tins out of each case, condemned the whole, and all the condensed milk was destroyed. The plaintiff claimed £46 13s. 3d., being the price paid by him for the condensed milk, together with the profit he would have made by retailing it at 2d. per tin. The defendant's case was that there was no evidence that the defendant knew that the plaintiff was a provision dealer, and that there was, therefore, no implied warranty that the milk was fit for food, and that under the description "irregular job line" the plaintiff took the risk of some of the tins being bad. In reply to the latter defence the plaintiff gave evidence that under the term "irregular job line" would be included milk of various brands and consistencies and milk contained in damaged or soiled cases, but that it did not authorise the delivery of unsound milk. The defendant also denied that the whole of the milk was bad. The jury found a verdict for the plaintiff for the full amount claimed, and judgment was entered accordingly.

**MILK PROSECUTIONS.**—At Aberdeen Sheriff Court, on March 27th, before Sheriff Burnet—William Milne, dairyman, Tulloch Croft, Banchory-Devenick, was charged at the instance of Kenneth Cameron, sanitary inspector, with having on 2nd inst. in Gerard Street (1) sold milk from a vehicle without having his name and address conspicuously displayed on the vehicle, and (2) sold and exposed for sale from one or two tins on his cart, skimmed milk, without having on the tins the words "skimmed milk" in large letters, clearly visible to the purchaser, contrary to the provisions of the Food and Drugs Act, 1899, which came into force on January 1st, 1900. Accused pleaded guilty, and stated he was not aware of the Act. Mr. Lamb, Procurator-Fiscal, said there was a good deal of ignorance regarding the Act, and several cases had been brought under his notice. He simply brought this case in order that the Act might get publicity. He believed accused had acted entirely in ignorance. The Sheriff asked for Mr. Lamb's interpretation of section 11 of the Act, which spoke of "condensed, separated, or skimmed milk." Were these three different kinds of milk? Mr. Lamb said that skimmed milk meant milk skimmed by the hand, while machine skimmed milk or separated milk was milk skimmed by machinery, which took more of the fat off. Condensed milk was milk sold in cans. The Sheriff: There is no requirement that the milk should bear "condensed" on the label. What kind of label must condensed milk have? Mr. Lamb: There is no provision here for that. The Sheriff said he did not think it necessary, as the circumstances had been explained, to inflict any punishment for this offence. Of course, the conviction would stand against accused, and it might affect his punishment should he unfortunately be brought up again for a similar offence. In the meantime he thought

it was quite sufficient for him to point out to accused that there was a new Act, which came into operation on January 1st of this year, and which contained provisions which apparently has not been brought to the notice of a good many people in the trade.

**BUTTER AND MARGARINE PROSECUTION.**—At Hertford, on March 29th, Mr. Wigginton was summoned for selling margarine as butter, and for not properly labelling the same. Mr. Johnson said that on the 27th of February, he sent his boy into Mr. Wigginton's shop for a pound of butter. He brought out a parcel, and he (the Inspector) then went into the shop with the boy, and told the defendant that the purchase had been made for the purpose of analysis. Mr. Wigginton made no reply whatever about it. He (the Inspector) divided it. The same Section of the Act applied to this as to the last case, and there was no doubt he was "prejudiced" in this case also, because he did not get what he asked for; he got a very inferior article. Mr. Johnson again went into the box, and after reiterating his previous statements said that the Public Analyst reported: "Butter 10 per cent., margarine 90 per cent." Mr. Baker: You say it was an inferior margarine. —No. I said that I sent for butter and received an inferior article. As a matter of fact, it is high-class margarine?—Yes, it is a really high-class margarine; but it is not butter. What was it you instructed your assistant to ask for? A pound of shilling butter. You cannot expect high-class butter for a shilling?—Yes, I can buy good butter for 10d. a pound. What is the usual price of butter?—All prices. You can get it from 9d. to 15d. or 16d. Mr. Baker further elicited from the witness that margarine could be obtained from about 80s. a hundred-weight down to 64s. Mr. Johnson produced the paper in which the article had been supplied, and said he had omitted to do so during his evidence. A lad named Albert Victor Littleford, in the employ of Mr. Johnson, gave evidence in support of the case. He stated that about a quarter past six in the evening of February 27th, he went into Mr. Wigginton's shop and asked for a pound of shilling butter. He was served by a young man named Pamphilon, who took it from a slab not marked or labelled "Margarine," beside another that was so labelled. Witness paid the shilling for it, took it outside and handed it to Mr. Johnson. He then went back into the shop with Mr. Johnson. Witness did not see Mr. Wigginton in the shop at first, but saw him afterwards. Michael Hynes, assistant to Mr. Johnson, said he saw the last witness hand the parcel to Mr. Johnson. Mr. Johnson: That is my case; and I ask you to mark your sense of the gravity of the offence by inflicting a substantial penalty. Mr. Baker asked the Bench to bear in mind that the sale took place when Mr. Wigginton was not present. He was not going to deny the evidence, but he would put it that a technical offence had been committed for which his client ought not to be held responsible. He would call his client, who would tell them that he had generally given all his assistants instructions to be careful about the sale of such articles. He sold margarine as other grocers in the town did; and if the Bench considered that Mr. Wigginton had taken reasonable precautions, he thought only a nominal fine should be inflicted. Mr. Wigginton was then examined by Mr. Baker, and said he had read out to his assistants from time to time the remarks in their trade papers about the necessity of having margarine marked, and such matters. He had not specified margarine to Mr. Johnson, but he had had it in his mind when he had asked Mr. Johnson to come in now and again and keep his assistant up to the mark. Every tradesman experienced trouble about such matters. There was practically no difference between the price of the article sold and that asked for. Mr. Johnson: Are you quite sure you have given your assistants instructions never to sell margarine for butter?—I may not have done that in so many words. I have told them how to sell it. They know the law. Mr. Johnson: They are supposed to know; but they do not know. Answering questions put by Mr. Johnson, Mr. Wigginton said he was sure he had some butter on the counter on the occasion in



question; it was on a marble slab, and was in the shape of a square. The margarine was round. There were two or three slabs of genuine butter. Mr. Johnson: Had you any butter being sold at a shilling a pound that day?—Yes. Can you give any reason why only margarine was sold?—No, I cannot. Was it because there was no shilling butter in the shop?—No, it was not. Mr. Baker: What do you think happened with regard to the sale of this margarine—what do you think the assistant did?—I should think he took the first he came to. You do not think he did it deliberately?—I do not see why he should. The Bench retired to consider their decision. On their return they imposed a fine of £1, with costs 15s. 6d. and analyst's fee, 10s. 6d. The third summons, in which Mr. Wigginton was charged with selling margarine without the regulation wrapper containing the word "Margarine" in prominent letters was next heard. Mr. Baker complained that the prosecution was really trying to make two offences out of one, the circumstances being identical. Mr. Johnson contended that although the summons arose from the same occasion, yet there were two distinct offences—one of selling margarine for butter, and the other for not putting it in the proper paper. Mr. Baker: You must not punish a man two or three times over the same offence. Mr. Johnson: Those are not the same set of facts. He is charged now with doing something else. Mr. Baker: If the article sold had been put in a paper labelled "Margarine," there would have been no offence under the Sale of Food and Drugs Act. Mr. Johnson again gave evidence in the witness-box, and stated that a pound of shilling butter was asked for and the parcel was brought to him in plain paper—nothing whatever on it. Albert Victor Littleford gave similar evidence. Mr. Johnson said he did not think a certificate was required in this case. Mr. Baker said he believed it was, and he took objection that there was no certificate. The case resolved itself into this—merely the omission of the word "Margarine"; and he could not imagine there being two cases. He would take his stand on this; that the case had been tried under another form, and under different Acts of Parliament. The Chairman said the Bench considered the case to be proved, but they would not inflict a penalty and would remit the costs. Mr. Baker then said that with reference to the first case, they would waive their objection and allow it to go on. They did not want to come there again, and under the circumstances would plead guilty. But his client was anxious to state that he does sell Demerara sugar. The Magistrates retired, and on their return the Chairman said they considered it a more serious offence than the other, and therefore they must mark their sense of it by inflicting a fine of 30s., together with 9s. 6d. costs and the analyst's fee of 10s. 6d.

**DEMERARA SUGAR PROSECUTION.**—At Hertford, on March 29th, Mr. Otho Wigginton, grocer, of the Old Cross, appeared to answer a summons charging him with unlawfully selling, instead of Demerara sugar asked for by the purchaser, an article found to consist of artificially dyed crystals. Mr. A. Baker appeared for defendant. Mr. T. Johnson, inspector of weights and measures, in opening the case, said he prosecuted on behalf of the County Council, and the proceedings were taken under Section 6 of "The Food and Drugs Act of 1875," which provided that no person should sell to the prejudice of a purchaser any article of food or drugs which was not of the substance or quality demanded. It was his contention that he had been prejudiced in this case, because he had received an article he did not ask for. He asked for Demerara sugar, and he was supplied with sugar crystals. He paid the price for Demerara sugar. He did not know whether Mr. Baker was going to defend the case on the line that a master was not liable for the action of his servants, but he contended that under the Act Wigginton could offer no justifiable plea on that score. This sugar was sold by an assistant to Mr. Wigginton; but Mr. Wigginton, he believed, was in the shop at the time. On the 27th of February he (Mr. Johnson) sent a boy into the shop for a pound of Demerara sugar and for a pound of butter. The boy

came out of the shop with two parcels, handing them to him. He with his boy immediately went into the shop, and he saw Mr. Wigginton and told him that the articles had been bought for the purpose of being analysed by the public analyst. He offered to divide the sugar into three portions, in accordance with the requirements of the Act; but Mr. Wigginton at once said, "This is not Demerara sugar; it is crystals." He (the inspector) pointed out that Demerara sugar had been asked for and paid for as such, viz., at 2d. per lb.; and Mr. Wigginton replied, "Oh well, we have no Demerara sugar in the shop. Don't keep it. I ought to have told my young man to sell the boy two pounds for 3½d., but I was busy talking to a lady in the shop." There was a lady in the shop, Mr. Johnson remarked, and it was quite true that Mr. Wigginton had been speaking to her. Proceeding, Mr. Johnson said it appeared conclusive to him that the defendant knew that crystals were being substituted for Demerara, and that he did not take the trouble to stop it. Mr. Johnson then entered the witness-box and substantially repeated his opening statement. He divided the pound of sugar into three portions, and left one with Mr. Wigginton, one he produced, and the following day he took the other to the Public Analyst at St. Albans, from whom the following certificate had been received:—"This is not a sample of Demerara sugar; it is sugar crystals, artificially dyed to represent Demerara sugar." He sent a facsimile of this certificate to Mr. Wigginton in the ordinary way. In reply to Mr. Baker, the witness said he had never purchased Demerara sugar from Mr. Wigginton before, nor did he know of anyone else who had done so. You have from time to time purchased samples from Mr. Wigginton? Never to divide them. Mr. Wigginton has asked you from time to time to take samples for analysis? I do not remember it. With respect to his weights and scales, he has told you that he would be glad if you called in occasionally? Yes, Mr. Wigginton has always been careful about his weights and scales. I will say that. Mr. Baker remarked that Mr. Wigginton had not received the certificate in connection with the present summons and it was therefore a question whether the case could be proceeded with. Mr. Johnson said that if the certificate had not reached the defendant it was no fault of his. It was not a great matter. The certificate had been left with the police to accompany the summons. The Clerk (Mr. H. S. Hawks) read the Act dealing with the point, which stated that a copy of the certificate must be served. Mr. Baker: I am bound to take this objection. Mr. Johnson said he would go on with the case, if he might. The Clerk said there had evidently been some mistake, and the copy of the certificate appeared not to have been served with the summons. Mr. Johnson said it should have been left with Mr. Wigginton. He did not serve the summons. Mr. Baker said he was not blaming Mr. Johnson. There had been a mistake, and he was justified under the circumstances to raise the objection. It was open to Mr. Johnson to take out a fresh summons if he chose. That was for him to consider. Mr. Johnson: Let the case rest here. I will issue a fresh summons.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Guildhall, London, on March 27th, David Richard Davis and Thomas Lewis, dairymen, Stoney Lane, Houndsditch, E.C., pleaded guilty to summonses charging them with selling margarine as butter, and with selling margarine without the proper wrappers. Alderman Green imposed fines upon each defendant of £11 and 8s. costs, in all £22 16s.

At South Shields, on March 28th, Emily Wallace was charged with exposing for sale margarine without having it labelled. Inspector Pollock called at the defendant's shop in John Clay Street, and saw three enamelled plates, which contained some substance like butter. Two of the plates were labelled "margarine," but upon the third was no label. He asked for a pound of butter from the unlabelled plate. The manager said it was butterine and not butter. Witness told him if the substance was not butter it ought to have been labelled. Witness persisted in having a pound of the article, and the



manager charged him 1s. for it. The analyst certified that it was margarine. Mr. F. E. Hannay called the manager, who had run short of butter on the day in question, and had sent to the principal shop for some. When the inspector came into the shop, witness told him he was expecting a fresh supply from the head shop every minute. He had been cleaning the shop that morning, and had put some margarine in the butter plate with the intention of taking it off again in a few minutes. There was no intention whatever to defraud. A fine of £5 and costs was imposed.

At Northwich, on March 27th, Joseph P. Tundley, provision dealer, Crewe and Northwich, was summoned for selling margarine as butter. The defendant said it was the fault of his manager, James Ball, since discharged. The latter pleaded an unintentional slip during the great Ladysmith excitement. Mr. Tundley was held liable, and fined £2 and costs.

At Stonehouse (Gloucestershire), on March 29th, William Henry Goodman, grocer, Frampton-on-Severn, was summoned for having sold margarine not labelled. Police Constable Allen visited the defendant's shop in plain clothes and asked for margarine. Defendant answered "Yes," and witness asked for a pound. The defendant then proceeded to the rear of the shop and returned with some margarine, for which witness paid 8d. The defendant wrapped it up in two pieces of plain paper, and witness at once called his attention to the fact that he had neglected to properly label the article supplied. Defendant replied, "Yes, I know. I used to do it when I was in London, but I do not buy margarine for sale, and I have no papers. I only supplied you with this just to oblige you. You can see I do not keep it in the shop." The defendant informed the magistrates that the constable's story was quite correct. He simply kept some margarine in his cellar for confectionery purposes, and he had never sold any in his shop. He did not know the officer, and thought he was only obliging a customer by supplying the article asked for. The Chairman: But you would have sold it to anyone who might have asked for it. You will be fined £1 11s. 5d., including costs.

**BAKING POWDER PROSECUTION.**—At Calne on April 4th, Albert W. Buckeridge, of High Street, grocer, was summoned for selling four packets of baking powder, which contained 38 parts per cent. of alum, being an ingredient which rendered such an article injurious to health. The defendant, on being called to plead, said he was perfectly innocent of breaking the law. The law was altered on the 1st January, for what reason he did not know. Mr. Bevir: I think it would be well if the defendant entered a plea of not guilty. The summons was taken out under an Act not of the present year, but which had been law since 1875. It was perfectly true that, under a decision of the High Court, baking powder was held not to be an article of food within the meaning of the Food and Drugs Act, but that had been remedied by the Act of 1899. Baking powder had long been adulterated by manufacturers, but the one form to which exception was taken was alum. Alum, in any form, unless prescribed medically, was most injurious when taken internally. This was not a case in which either the County Council or their officials were proceeding more or less for an innocent infraction of the law, as Mr. Buckeridge stated, but when they came to deal with the question of penalty it was a very serious offence. The baking powder in this case was, no doubt, sold by the defendant in the condition in which he received it, and without any careful inquiry as to what it contained. He did not know whether he was speaking in the presence of any medical man, but he believed that alum was very rarely prescribed internally, and then only in cases of severe internal hemorrhage. Now the direction on the label was that a teaspoonful was to be used with one pound of flour. Taking the very lowest estimate of what a teaspoonful would contain he was well within the mark in saying that every cake baked with one pound of flour would contain over 40 grains of alum. The adulteration

in this matter was injurious to health. It was not an ordinary case of putting in some harmless matter to make a little extra profit. Here they had one third of the constituent parts of alum, which was a very cheap preparation, and costing not more than £8 10s. a cwt., the sole object no doubt of the manufacturer being to produce packets of moderate size which could be sold by the retailer at a very low price. Mr. Buckeridge had written to him stating that there was no question about the analysis, and he did not, therefore, propose troubling the Court by calling the analyst, or the County Medical Officer of Health to give evidence as to the injurious aspect of the matter. On behalf of the County Council he left the question unreservedly in the hands of the Bench. Sam Smith, County Council Inspector, having proved purchasing the powder, and, speaking as a chemist for fourteen years, said if alum were prescribed internally, the maximum would be only 10 grains. A teaspoonful in a pound of flour would contain 42 grains of alum, and, of course, with a very full teaspoonful, more. Mr. Buckeridge represented to the Bench his complete ignorance of the composition of the powder. He was obliged to take the word of the wholesale dealer, and could not analyse everything he sold. The Mayor: I should have it stated on the article that it was genuine, and if it is not, you will have an opportunity of proceeding against the manufacturers or wholesale dealers who supplied you with the goods. The Clerk: You should have a warranty. Mr. Buckeridge handed in a copy of a letter he had sent to the manufacturers, and their reply. He added that there were a great many injurious things sold of which no notice was taken. Tea produced dyspepsia. The Mayor: You do not advise people not to drink tea? (laughter). Mr. Buckeridge said he thought too much was drunk. In produced weakness of the eyes, and that was the reason they saw so many people of the present generation wearing spectacles (laughter). He hoped their worships would dismiss the case. He was very pleased that they had a tradesman as Mayor. It was vexing that a tradesman should be put about in this way, and he hoped his worship would look after the protection of his own town. He did not sell the powder with the intention of poisoning the public. He supposed most things they took were more or less poisonous. He sold spirits which would be injurious if taken in large quantities. The Mayor: That is not before the Court. The Ex-Mayor: What do you propose to do with the remainder of the stock you have of this baking powder? Mr. Buckeridge: Whatever you tell me. The Mayor: It is not for us to tell you, it is for you to use your own judgment. Mr. Buckeridge: This has been in stock some little time; we do not often sell these large pennyworths. Mr. Bevir: In order to sell a large pennyworth he does not get the warranty he ought to have. The Mayor: I hope you will get a warranty in future. Do the County Council press for a penalty? Mr. Bevir: I will leave it to the magistrates. The defendant makes a statement that he does not know what he sells, and if he will not make himself acquainted with the nature and quality of his goods then we must protect the public. The Mayor, after consulting the Ex-Mayor, said they had taken as lenient a view of the case as they possibly could, and the defendant would have to pay a fine of 1s. and 7s. costs. He hoped, in future, that when he bought goods from wholesale houses he would obtain a warranty, and in the event of their supplying him with goods injurious to health he could proceed against them. He could proceed against Messrs. Nation and Co. for selling him an article which they represented as genuine. It was rather an unpleasant thing for anyone to go against one's neighbours.

**WEIGHTS AND MEASURES PROSECUTIONS.**—John Vaux, baker, Shepton Beauchamp, was summoned for having in his possession unjust weights and two unstamped balances. Mr. N. W. Crick, County Council Inspector of Weights and Measures, spoke of going to defendant's premises and finding 2lb., 1lb., and 2oz. weights, which were  $\frac{1}{2}$  oz., 3drms., and 1drms. short respectively. The 2lb. weight was the one regularly used in the defendant's bakehouse for



weighing bread. The balances were unstamped and required adjusting. The Bench thought the offences arose through carelessness, and fined defendant 5s. and 5s. costs in each case, and ordered the forfeiture of the weights. — Isaac Smith, grocer, of Shepton Beauchamp, was summoned for having an unjust balance. Mr. Crick said the balance had never been stamped, and he should not have passed it, because it could be used fraudulently if it was desired. It was loz. against the purchaser in weighing 7lbs. Defendant had produced other balances and weights to witness for stamping, but never the balance in question. Defendant argued that the balance was a just one, and said he had never in his life given a purchaser wrong weight. He had been in business over 20 years. The Bench considered this was also a case of carelessness, and fined defendant 5s. and 6s. costs.

At North Holland (Boston) Petty Sessions the following bakers and shopkeepers were prosecuted for selling bread otherwise than by weight: — Henry Johnson, Swineshead, fined 10s. and costs; Edwin S. Houlder, Swineshead, fined 20s. and costs; Mary Butters, Chapel Hill, fined 5s. and costs; Rebecca Smith, Skirbeck, fined 7s. 6d. and costs; Elizabeth Cook, Skirbeck, fined 10s. and costs; Harriett J. Hall, Leverton, fined 5s.; William Martin, Butterwick, fined 10s. and costs; William Codling, Freiston, fined 5s.; Thomas Parnham, Butterwick, fined 5s. and costs; John Henry Neal, Butterwick, fined 5s.; Eliza Jackson, Surfleet, fined 5s.; William Henry Noble, Surfleet, fined 5s. and costs; Ellen Staneland, Boston, fined 10s. and costs; William Ward, North Forty-foot Bank, fined 10s. and costs; Frederick Herd, Sutterton, fined 5s. and costs.

**MAGNESIA PROSECUTION.** — At Calne, on April 4th, George Smith, of Wood Street, grocer, was summoned for selling four packets which consisted not of magnesia (which is magnesium oxide) but of carbonate of magnesia. Mr. Bevir said this was another case in which the big pennyworth came in. Sam Smith, having proved the purchase on the 16th February, said carbonate of magnesia was a much cheaper preparation. If carbonate had been marked on the packages it would have been all right. The Mayor: You do not contend it is injurious to health? Mr. Smith: Oh no, but it does not go so far as the oxide. The defendant said he purchased the packets in the same condition as he sold them. The Mayor: You will have to pay 7s. costs. I am very sorry for you; it goes against me to have to fine you at all. Defendant: Can I sell the remaining packages if I write "carbonate" on them? Mr. Smith: Yes, but it must be plain.

**QUININE WINE PROSECUTION.** — At Calne, on April 4th, John Edward Pedwell, of High Street, confectioner, summoned for selling a bottle of quinine wine which consisted of orange wine containing not more than 10 grains of quinine hydro chloride per pint, whereas quinine wine, made in accordance with the directions of the British Pharmacopœia, contains 20 grains of quinine hydro chloride per pint. Mr. Sam Smith stated that on the 16th February he purchased the quinine for 1s. 7d., one penny being for the bottle. He had bought a lot of quinine lately in Wiltshire from 1s. to 1s. 3d. per bottle, and the price he paid Mrs. Pedwell was ample for genuine quinine wine; in fact it was more than he had ever paid before for the genuine article. The Mayor: If a person sold quinine in a bottle, with a label stating that it only contained 10 grains, were they allowed to sell it? Mr. Smith: They would then be allowed to sell it? Mr. Bevir: People can protect themselves by a label. Mr. Henly, who appeared for the defendant, cross-examined the witness, who admitted that he pointed out this particular bottle to Mrs. Pedwell, and asked for it. Speaking for the defence, Mr. Henly explained that there were two qualities of "quinine wine" — one prepared in accordance with the British Pharmacopœia and sold by a druggist, and the other a better quality wine but containing less quinine, and sold by the confectioner as a beverage, who had to sell it under a license. The label on the

bottle now in question showed that it was not sold as British Pharmacopœia quinine were but as "Homes' Quinine Wine," and he contended that the word "Homes'" was as much an ear-mark as "Gilbey's" quinine sherry. On the other hand the label on a bottle of Orange Quinine Wine, which was the quinine wine sold by chemists, also manufactured by the firm, stated — "This quinine wine is guaranteed to be prepared according to the directions of the British Pharmacopœia." The Mayor: The only thing that goes against you is that you sell an inferior wine at a higher price. Mr. Henly: I have Mr. Homes here, and he will tell you that the quality is superior to the British Pharmacopœia wine. The Mayor: We do not say anything about the quality of the wine, but as to the quantity of quinine in it. Mr. Henly: The label says "the dose is from half a grain to one grain" to the glass. There is full notice that the proper quantity of quinine is not there, and as long as the buyer has notice under section 8 that the article is mixed, it is not for the vendor to prove what the legal quantity is. He laid stress on the fact that the Inspector had asked for this particular bottle of wine, and said he had samples of the two wines there; the Mayor could satisfy himself of the difference between the two. The Mayor: I do not want any for my stomach's sake. (Laughter). Mr. Henly, proceeding, said if the Bench considered that the prosecution had made out their case, then he would submit that it was of a very trivial character. The total amount of quinine wine sold by Mr. Pedwell during the last three or four years had not amounted to more than three bottles, so that the consumption of quinine wine in this suggested adulterated state was very small, and a very small fine would meet the merits of the case. This wine had been manufactured by Messrs. Home and Co. for 25 years, and that was the first time a prosecution had taken place. Mr. Bevir contended that section 8 applied only to a mixed article, and had nothing to do with this case. The Mayor (to Mr. Smith): What article did you expect to buy? Mr. Smith: Pharmacopœia wine, unless it stated on the label to the contrary. The Mayor said they must convict in this case. He considered if a person went into a shop, it mattered not whether he went into a grocer's or a chemist's shop, he expected to get the article he asked for. This bottle of quinine wine did not contain a sufficient quantity of quinine as it ought to have done, unless there was on it a label stating the amount of quinine hydro chlorides. They would fine the defendant 1s., and 7s. costs, and that was taking the most lenient view they could of the case. As he said before, he did not like having his own friends prosecuted, and he hoped that in future grocers and spirit merchants in Calne who sold quinine wine would have the amount of quinine distinctly specified on the label. Mr. Henly: This quinine wine contains exactly the same quinine, or rather more, than the quinine sherry sold by Messrs. Gilbey. Mr. Bevir: That is not official. Your wholesale house will have no difficulty in framing suitable words to settle the matter.

**SPIRIT ADULTERATION PROSECUTIONS.** — At Nottingham, on March 30th, Wm. Hicks, innkeeper, Metherringham, was summoned for selling whisky to the prejudice of the purchaser. The analyst's certificate showed that the whisky contained 68·67 per cent. of whisky of proof strength, and 31·33 per cent. of water. Mr. Porter defended, and explained that a notice was exhibited, which might have been seen by the purchaser, and which stated that spirits were sold diluted. The case was dismissed.

Wm. Partas, innkeeper, Boultham, was summoned under the Sale of Foods and Drugs Act, for selling Irish whisky to the prejudice of the purchaser. The whisky according to the analyst's certificate, contained 59·90 per cent. of whisky of proof strength, and 40·10 per cent. of water, and was, therefore, below the strength laid down by law — 25 under proof. Mr. Porter appeared for defendant, and pleaded guilty, and the defendant was fined 12s., including costs.



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### APPEAL CASES UNDER FOODS AND DRUGS

ACTS.—A Digest of Appeal Cases under the Food and Drugs Acts. Compiled by B. SCOTT ELDER, Esq., Chief Inspector to Durham County Council. 1900.

London:—SHAW & SONS, 7, 8 & 9, Fetter Lane, E.C.  
BUTTERWORTH & CO., 12, Bell Yard, W.C.

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## Food and Sanitation.

SATURDAY, APRIL, 21, 1900.

### The Substitution Evil.

How Guinness, Bass, and Other Noted Brewers are Wronged and the Public Deceived.

WE are glad to see that brewers of pure stout and beer are at last taking steps to suppress the enormous amount of deception practised by bottlers. It is several years since we gave some facts and figures of the prevalence of the imposture and seeing how gross it is we are surprised that more stringent measures have not been taken by the firms injured. However, they now appear to be waking to the evil,

At the Alnwick Police Court, on April 7th, Mr. John Tate presiding, John Burton, innkeeper, Steamboat Inn, Amble, was charged with selling half a pint bottle of stout, to which a false trade description was applied, to wit, "Genuine Extra Dublin Stout," whereas the contents of the bottle were not genuine extra Dublin stout, contrary to the Merchandise Marks Act, 1887. Mr. E. Meynell (instructed by Messrs. Ingledew and Fenwick, Newcastle), prosecuted on behalf of Messrs. Arthur Guinness, Son, and Company, Ltd., Dublin; and Mr. Joel (instructed by Messrs. Maugham and Hall, Newcastle) defended.

Mr. Meynell said the case was by no means an isolated one, but the practice had been done systematically. The defendant had bottled stout and had affixed labels to the bottles, bearing the words "Genuine Extra Dublin Stout," which, when analysed, had been found not to be Dublin stout at all. Messrs. Ingledew and Fenwick, instructed by Messrs. Guinness, wrote to Mr. Burton asking him for an explanation, and the reply received was that the words on the label were not put on to defraud the public at all, but just to fill the label up. He (defendant) was very sorry if he had done anything wrong, and promised to withdraw the labels used. Mr. Meynell pointed out that it would have been a very simple matter to have filled up the labels with the name of the real place where the stout was brewed. The offence, he submitted, was a very serious one, and he asked that a very substantial penalty might be inflicted.

Evidence was then given by a law student, named Maurice C. Hill, who purchased a number of bottles from Mr. Burton's public house on different dates, all of which bore the words "Genuine Extra Dublin Stout"; by Mr. Alex. Forbes Watson, Dublin, analyst with Messrs. Guinness, who spoke to analysing the stout sent by the last witness, and finding it distinctly not to be Dublin Stout as alleged; by William H. Herbert, traveller with Messrs. Guinness, who stated that he never heard of any Dublin Stout that was not brewed in Dublin; and others.

Mr. Joel, for the defence, contended there had not been the slightest inclination on the part of his client to defraud the public. Not until the present proceedings were instituted had any complaint been made or warning given by Messrs. Guinness with regard to the stout sold by the defendant. Mr. Joel held that there was no false trade description, and that not the slightest representation had been made that the commodity with which the stout was brewed was made in Dublin.

The defendant gave evidence in support of Mr. Joel's contention. He said he never made stout himself, but got it in barrels from Watkins, of Dublin; Tucker's, of Gateshead; and Aitchison, of Edinburgh, and sold the bottles at 1s. 6d. a dozen.

After further evidence had been given, the Bench held there must be a conviction, and fined the defendant £10, including costs.



## The Food and Drugs Act in Ireland.

THE "Sale of Food and Drugs Act, 1899," came into force in Ireland on April 6th. As it stands on the Statute Book the Act apparently should have come into operation on the 1st of January last, but as the authority entrusted with the enforcement of some provisions of the

measure, namely, "the Department of Agriculture and Technical Instruction for Ireland" did not come into being until April 6th, the Food and Drugs Act passed last Session was a dead letter for the first three months of the year.

## Dietetic and Hygienic Notes.

### White and Dark Meats in Medical Dietetics.

IN a series of articles recently published, Dr. Offer and Dr. Rosenquist deal with the opinion which has been generally accepted by many that white meats are more suitable as a dietary, owing to greater digestibility and the presence of less uric acid and nitrogenous extractives. This popular belief has much to answer for in view of the fact that white meats are so generally prescribed for patients who are the subjects of gouty, renal, and allied troubles in particular. The analyses made by Dr. Offer and Dr. Rosenquist show that while the white meats such as poultry and fish do in certain cases—*e.g.*, fish and fresh venison—contain less extractives and nitrogenous derivatives, the average amount does not appreciably differ in the white and dark meats—*e.g.*, poultry, veal, beef, pork, mutton, &c.—to make either preferable. They point out that the only way of limiting the ingestion of these deleterious extractive and nitrogenous-substances is by diminishing the amount of meat taken rather than by forbidding dark meats. They also assert that among the extractives present in meat the most important ones, such as sarcosine and butyric acid are by no means harmful if taken in small quantities as is ordinarily done, and the same holds good as regards the other organic extractives which are nitrogenous. The bad results which accrue from excessive meat eating can be neutralised by diminishing the quantity of meat and increasing the amount of vegetables consumed during meals, and in this way disorder and ailments due to excess of uric acid in the blood may be gradually ameliorated. The practice of eating three heavy meat meals a day should be discouraged on the same grounds.

\* \* \* \*

### Margarine and Mixtures from a Grocer's Point of View.

MR. T. BAKER, a Birmingham trader, giving his experience of the New Food and Drugs Act recently, said he did not think it prevented fraud to any great extent. If it did not prevent fraud it made fraud more profitable, for whereas before the Act was passed best mixtures were as high as 90s. per cwt., they could now be bought at 70s. The majority of the public could not discern when they were getting a mixture palmed on to them any more than they could before the Act was passed. The only way to prevent fraud and to protect the honest trader and the public was that the margarine should be packed in a distinctive shape and in a properly labelled package, or else that it should be coloured so as to be easily distinguishable from butter. There was nothing to prevent any dishonest refreshment-house keeper selling margarine for butter, and when he was caught saying that he had purchased butter. In this way an honest trader was involved.

### Dangers of Caffeine.

ACCORDING to Zenetz, caffeine is a drug which has been imperfectly investigated and which should not be used in medicine until it has been more thoroughly worked out. He finds that it is very slowly eliminated from the system by the kidneys, and that its action on the heart is cumulative; it is, therefore, absolutely contra-indicated in all renal diseases, in arterio-sclerosis, and all cardiac affections secondary to them. Another danger of caffeine is that the experimentally fixed toxic dose varies enormously with the individual.—*B. M. J. Epit*, 1, 1900, 35.

\* \* \* \*

### Food Preservatives.

At a meeting of the Society of Arts, held in London on 21st ult., Dr. S. Rideal read a paper on "The Use and Abuse of Food Preservatives." He began by reminding his audience that a Departmental Committee had been appointed by the Board of Agriculture to inquire into this subject, and hence arose the present importance of discussing it. He assumed that the Committee would make it compulsory for the presence of any preservative in milk to be declared at the time of purchase, as it was now agreed that in special cases, such as that of invalids, the consumer should be able to obtain a milk free from preservative, and in all cases he should be aware of its presence. The legitimate use of milk preservatives should be restricted to the farmer or cowkeeper, and removed from the milkman or vendor or consumer. In the case of butter it was to the interest of the trader to keep boric acid low, from the commercial point of view, as butter with  $\frac{1}{2}$  per cent. of boric acid had a better flavour and would fetch a better price than that containing 1 per cent.

In the discussion which followed, Dr. Attfield, editor of the *Pharmacopæia*, said he had long found by practical experience that the quantities of preservatives commonly recommended were excessive. Small quantities only of such preservatives should be employed, and those quantities should be notified as far as practicable on whatever container held the substance which included the preservatives.

Mr. Cassal, public analyst, maintained that refrigeration, which added nothing to and took nothing from food, was the proper method of preserving food when preservation was necessary, and he objected entirely to the use of chemical preservatives. Stripped of all verbiage, that proceeding amount to adulteration, and to dangerous adulteration, and was one which he hoped the Departmental Committee would condemn.

Dr. Dudfield, medical officer of health for Paddington, agreed in the main with Dr. Cassal. If we made a serious effort to use cold storage the difficulty of food preservation, especially in the case of milk, would be entirely removed.



## Official Reports and Notes.

### Weights and Measures—Inspectors' Meeting in Bradford.

THE spring general meeting of the Incorporated Society of Inspectors of Weights and Measures was held on April 6th, in the Council Chamber at the Bradford Town Hall. There was a large attendance of delegates from all parts of the country. The Mayor (Mr. William C. Lupton, J.P.), in welcoming the delegates to Bradford, said he recognised the value of the profession to which they belonged. There were only two things which were not weighed or measured; one was paternal love, and the other advice. The latter was procurable in large quantity at little price, and the less you wanted the more you got of it. (Laughter.) He wished them success in their deliberations, and begged to be excused for the present, as he had only just returned from London on Parliamentary business, and he found an accumulation of work which required immediate attention. After the retirement of the Mayor, Councillor Harry Gray, the chairman of the Markets and Fairs Committee of the Bradford Corporation, was voted to the chair. The formal business of the passing of minutes having been dealt with, Mr. Crane Cooper, the chief inspector of weights and measures, at Hull, read an interesting paper upon "Petroleum," dealing with its origin, its uses, conveyance, sale, storage, and dangers. Speaking upon its uses, Mr. Cooper said petroleum had become such a useful article in manufactories that to describe every use that was made of it would be almost an impossibility. It was known that about forty different trades used it. Professor Dewar estimated there were 10,000,000 lamps in use in the United Kingdom, every night in the year, and that the consumption of petroleum for illuminating purposes was four gallons per head of the population. A vessel filled with petroleum spirit would not explode if a light were applied to it; it would burn and blaze furiously. The real danger was in not bringing all petroleum under the

control of the local authority. Mr. Major (Cardiff) opened a discussion upon the paper. Mr. O. J. Kirby (Batley) said he had a wholesome dread of long section pipes in connection with petroleum. Mr. Talbot Kyle (Surrey) said a great danger of accident was attributable to low flash oil. He trusted the Government would see its way to bring in a bill to raise the flash point of petroleum spirit. Mr. W. Crabtree (Retford), Mr. Riley (Blackburn), Mr. J. A. Ridgway (chairman, Yorkshire East Riding), also spoke. In reply, Mr. Cooper said that if they raised the flash point they could not prevent people from buying benzoline and burning it in lamps. There were benzoline lamps in use to-day. If they raised the flash point, people were not compelled to burn their oil. A resolution was unanimously adopted "That all petroleum, when tested in the manner set forth in schedule for the Petroleum Act that gives off an inflammable vapour at a temperature of less than 105 degrees, should come within the meaning of the Act, and be under the control of the Local Authorities."

Mr. Allan Grainger (Chief Inspector of Birmingham), gave a practical address upon the proportion "that weighing instruments constructed on the lever principle, and intended for use in trade, should be made to vibrate."

Mr. Jones (Liverpool), Mr. G. F. Allwood (Wolverhampton), Mr. Street (London), Mr. F. Newton (Bristol), Mr. Cooper, Mr. Ridgeway, Mr. Kirby, Mr. Major, and Mr. F. G. Bennett (Warwick), spoke for and against the proposition. Mr. Grainger's resolution was withdrawn.

The Mayor entertained the delegates to luncheon at the Town Hall, and was heartily thanked for his hospitality.

Among the questions discussed was a knotty one relating to the stamping and denomination of beer barrels and other casks used as measures of capacity.

## Cold Storage Notes.

### Proposed Cold Stores for Wolverhampton.

THE Wolverhampton Town Council have considered a report of the Markets Committee on the proposed cold stores and ice manufacturing plant. "The Committee are convinced that the demand for cold storage is growing year by year, and they are more than ever anxious that the provision of the cold stores should be pushed forward with as little delay as possible. Your Committee recommend as follows:—

"That resolution No. 155, passed at the meeting of this Council, at their meeting held on the 28th February, 1898, be rescinded. That this report and the accompanying report of the Borough Engineer be approved and adopted by the Council, and that your Committee be authorised to incur the expenditure therein referred to. That, conditional, upon Parliamentary sanction being obtained, to provide a refrigerator, cold air stores, and ice-making apparatus, and all other apparatus necessary for the proper working thereof, the Finance Committee be authorised to apply to the Local Government Board, if necessary, for their consent to the loan of £9,450 for the erection and equipment of cold stores; also, that subject to the consent of the Local Government Board being obtained to the aforesaid loan, the Finance Committee be authorised to borrow all necessary monies, and if requisite, to raise Wolverhampton Corporation stock for the purpose of

defraying the costs, charges, and expenses of the works proposed to be executed."

"The Borough Surveyor has prepared a report on the necessity of the above scheme. He says:—

"It is regarded as essential in most towns of any size at the present day, that both these conveniences should be provided. Wolverhampton is the centre for nearly a quarter of a million people, and however careful merchants and dealers may estimate the requirements of the public, they cannot arrange the supply so as to exactly equal the demand."

The surveyor's report goes on to suggest that the best position for the cold stores is one adjacent to the wholesale market, the building to run down the north side of Mr. Lawrence's Vaults. He thinks the Committee would be fully justified in at once constructing stores with a chamber capacity of about 22,500 cubic feet. Sufficient land would then be left to provide nearly 50,000 cubic feet more storage. With regard to ice manufacture, he believed the supply would create a demand, as it had in other towns. The report suggests the production of cold by an ammonia compression machine, and its distribution by means of a cold-air current system. The cost of constructing the stores and factory is estimated at £5,700, and the cost of the plant, etc., at £3,750, making a total of £9,450. The estimate working account shows a profit on the year of £334, the receipts from the cold stores being taken as £1,125, and sales of ice (half-year's make), at £1,950.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

#### Important Milk Warranty Case.

ROBERTSON V. HARRIS.

IN the High Court, on April 10th, before Justices Ridley and Darling, the appeal was heard of Robertson v. Harris. This was a special case stated by the Stipendiary Magistrate of Sheffield on the hearing of an information laid by the appellant against the respondent, under section 6 of the Sale of Food and Drugs Act, 1875, charging the respondent with selling, as pure milk, milk to which water had been added. The defence was that the respondent had purchased the milk as pure milk and with a written warranty to that effect, that he had no reason to believe, at the time when he sold it, that it was otherwise, that he had sold the milk in the same state as when he purchased it, and that he was accordingly protected by section 25 of the Act. In support of this defence the respondent relied on the contract under which he bought the milk, which was in the following terms:—"January 20th, 1899. Hall Farm, Duffield, I, Sarah Sheldon, of the above address, agree to sell to William Harris, of 682, Attercliffe Road, Sheffield, 1,000 gallons of milk weekly in such quantities as arranged, the milk to be pure, new milk, delivered at Attercliffe, Masborough, and Swinton stations on the Midland Railway, carriage paid, at 7½d. per imperial gallon, from January 21st to March 31st, 1899, both inclusive, 7½d. per imperial gallon from April 1st, 1899, to September 30th, 1899, both inclusive, and 7½d. per imperial gallon from October 1st, 1899, to January 20th, 1900, both inclusive." The learned magistrate held that this agreement had in it a written warranty within section 25 of the Act, and as it was proved that the respondent had no reason to believe at the time when the milk was sold it was otherwise than pure, new milk, and that it was sold in the same state as when it was purchased, he dismissed the information subject to the present case.

Mr. Reginald Brown, Q.C., appeared for the appellant; and Mr. Frankau for the respondent.

In the course of the argument the following cases were cited:—"Rook v. Hopley" (L.R., 3 Ex. D., 209); "Harris v. May" (L.R., 12 Q.B.D., 97); "Farmers' Co. v. Stevenson" (60 L.J., M.C., 70); "Hotchin v. Hindmarch" (L.R., 1891, 2 Q.B., 181); "Elder v. Smithson" (57 J.P., 809); "Laidlaw v. Wilson" (L.R., 1894, 1 Q.B., 74); "Lindsay v. Rook" (63 L.J., M.C., 231); "Iorns v. Van Tromp" (64 L.J., M.C., 171); and "Hawkins v. Williams" (59 J.P., 533).

The Court allowed the appeal and remitted the case to the magistrate with directions to convict.

Mr. Justice Ridley said he thought judgment must be for the appellant. The question was whether there had been on behalf of the defendant a written warranty put forward sufficient to satisfy section 25 of the Sale of Food and Drugs Act, 1875, which provided thus:—"If the defendant in any prosecution under this Act prove to the satisfaction of the Justices or Court that he had purchased the article in question as the same in nature, substance, and quality as that demanded of him by the prosecutor, and with a written warranty to that effect, that he had no reason to believe at the time when he sold it that the article was otherwise, and that he sold it in the same state as when he purchased it, he shall be discharged from the

prosecution." The defendant had satisfied the section in this respect, that he had no reason to believe that the article at the time when he sold it was other than of the nature, quality, and substance demanded, but the question was whether he had shown that he had purchased it with a written warranty. He had produced an agreement under which the milk was to be pure, new milk. That was no doubt a written warranty. In "Laidlaw v. Wilson" (L.R., 1894, 1 Q.B., 74) Mr. Justice Charles said:—"It is enough if the language of the document imports a warranty and shows an intention on the part of the vendor to warrant." In the present case, though the word warrant was not used, the document did import a warranty. So far the respondent was right. But the statute required more, it required that the defendant should show that he had purchased the article with a written warranty; and after the decision in "Harris v. May" (L.R., 12 Q.B.D., 97), notwithstanding that that case had been distinguished in "Laidlaw v. Wilson," it was not enough to produce a general agreement like that in the present case, without showing also that the article was bought with it. There was no evidence that such was the case in "Harris v. May," which was in other respects very like the present case. No doubt the document there did not contain the words to be pure milk, but a mere description of the milk as good and pure milk; but it was clear that the Court held that those words amounted to a warranty; Lord Coleridge, indeed, said that an action for breach of warranty could have been brought on the contract. Again, the words of Mr. Justice Charles in "Laidlaw v. Wilson" showed what he understood to be the ground of the decision in "Harris v. May." He said that, looking at the judgment of Lord Coleridge as a whole, he thought that what Lord Coleridge really meant was that it was not such a warranty as would cover the specific delivery of milk on April 12th, in the absence of some written evidence that that specific delivery was made under the contract. That amounted to saying that you must have more than a written warranty in a general agreement; you must have something written to show that the warranty covers the particular article. In "Laidlaw v. Wilson" there was such evidence. In the present case if there had been something to show that the general agreement for the delivery of milk covered the particular milk in question there would have been enough to satisfy the statute. In the absence of that the magistrates had come to the wrong conclusion.

Mr. Justice Darling delivered judgment expressing his concurrence with the judgment of Mr. Justice Ridley, and further, though without deciding the point, expressing grave doubt whether to satisfy section 25 of the Sale of Food and Drugs Act, 1875, the written warranty must not refer to an article already in existence when the warranty is given.

BUTTER AND MARGARINE PROSECUTIONS.—At Eccles, on April 2nd, Frank Mead, 105, Ellesmere Street, Patricroft, was summoned for selling margarine as butter. Mr. W. J. Parkinson said he purchased two samples from Mr. Mead of what purported to be butter. The samples were analysed and contained only 20 per cent. of butter and 80 per cent. of foreign fat. He paid 10d. per lb., and he considered the "stuff" was not worth more than 5d. The defendant admitted that he had sold it to the inspector as butter, and said he had bought it as butter. The Magistrates said the case was a serious one, especially as the defendant traded in a locality where there was a large number of poor people. He would be fined £10 and costs, the latter including advocate's and analyst's fees.

At Lambeth, London, on April 5th, Henry Leach, Hill Street, Peckham, was summoned for selling butter



not of the nature, substance, and quality demanded by the purchaser. A second summons against the defendant charged him with selling margarine otherwise than in a properly stamped wrapper. Mrs. Groom bought half a pound of shilling butter. She was served and gave the article, which was in a plain wrapper, to Inspector Groom. The public analyst certified that it was margarine. The defence was that a mistake was made in the serving. The defendant explained that he kept pure butter on the block. Just before the sample was taken his daughter had served some margarine, and had left some of the article on the block, and he (defendant) unfortunately served the sample from it. This was the first time in twenty years that anything of the sort had occurred. Mr. Francis ordered the defendant to pay a penalty of 20s. and costs.

At Kensington, on April 3rd, Charles Everard Thomas, 59, Blythe Road, Hammersmith, W., was summoned for selling butter containing 76.4 per cent. of fat other than butter fat. Mr. W. A. Webb appeared for the Vestry. Mrs. Coombes demanded half a pound of "shilling butter" and was served from behind a screen on the counter, and no remark was made at the time of purchase. The defendant: I was not in the shop at the time, and we were under the impression that pure butter was served. It must have been a mistake. I cannot do anything but plead guilty, but may mention that we have been in business at the same place for twenty years and had no such complaint before. I will take care that such a thing does not happen again. There was a second summons against the same defendant for serving the article referred to above in a plain wrapper, contrary to the provisions of the Margarine Act. Defendant was fined £1 in the first case and 10s. in the second, with costs.

At Bootle, on April 4th, John Duffey, Irlam Road, was summoned for exposing for sale margarine without a label. The Inspector found enclosed in a glass case on the counter some margarine wrapped in ordinary paper. The word "margarine" was printed on the wrapper, but the letters were not of the size required by the Act. Mr. J. W. Wall, for the defence, raised a number of technical objections against the summons. The Bench imposed a penalty of 10s. and costs.

At Biggleswade, on April 4th, James Kendall, grocer, Shefford, was fined 5s. with costs, for exposing margarine for sale not properly labelled. There was reason to believe that the label had been accidentally put on one side while a man was employed in doing some work in the shop, so the Inspector did not press the case.

It was a novel point that Mr. Daly raised in the case at King's Heath Police Court on April 11th, in which a grocer was charged with selling butter adulterated with 77 per cent. of foreign fat, but we think the magistrates were undoubtedly right in the view they took. The decision is one of considerable interest to the trade as showing their position as regards the law. The defendant was delivering butter from a cart in the street, and when a police serjeant wished to purchase half a pound the defendant refused to sell on the ground that his stock was all ordered. The officer pointed out that if he did not sell he would be liable to a heavy penalty under the Food and Drugs Act, and ultimately defendant sold half-a-pound. Mr. Daly's contention that there was no actual sale, but a forced sale, is disposed of by the fact that under the Act the officer had the right to demand the sale. If the law were otherwise the police would have no power over people like the defendant, who deliver inferior stuff in the streets, while the shopkeepers who retail from their premises are liable to be pounced upon by the authorities.

MILK PROSECUTIONS.—At the Maidstone Borough Police Court, four cases of milk adulteration were heard and exemplary fines inflicted, and amongst them was:—John Lampard, of Canning Street, Maidstone, was summoned for selling adulterated milk on Sunday, the 25th February. Mr. Lance Monckton, the deputy town clerk, who prosecuted on behalf of the Urban Council, said the case was a very bad one, inasmuch as the defendant was selling

the milk in a very poor neighbourhood and the adulteration was very great. William Jackling, the inspector under the Food and Drugs Act for the borough, stated that he saw defendant calling at houses in Peel Street with milk and purchased a pint for twopence. He sent a portion of it to the county analyst, who certified that the milk had been deprived of no less than 53 per cent. of its fat. Defendant, sworn, emphatically declared that he sold the milk "exactly as he received it by train from a certain farmer." Examined by Mr. Monckton: How far did the milk come by rail?—Defendant: From Devonshire. Give us the name of the person from whom you received it. He was a farmer, of Devonshire. Will you give the Bench his name?—No, I cannot do that. Mr. Monckton: Very well, the Bench must draw their own conclusions. Defendant: All I know is I didn't adulterate the milk. The Chairman said the defendant had taken upon himself the responsibility of refusing to disclose the name of the person who sold him the milk, and the magistrates had decided to fine him £10 and 10s. costs.—George Steer, milkman, of Melville Road, was summoned for a like offence on the same day. Mr. Monckton stated that this was even a worse case than the previous one, as the milk had not only been deprived of some of its cream but had also been watered. Mr. Jackling said he purchased a pint of milk of defendant in Melville Road, and he produced the analyst's certificate, which stated that the sample had been adulterated with eight parts of added water and had also been deprived of 29 per cent. of its cream. In defence, Steer said the milk that he sold to Mr. Jackling he bought of a boy in Stone Street, as his own supply had run short. The Chairman: When did you purchase it?—Defendant: Just before I met Mr. Jackling. I have my milk from Ashford, but I hadn't quite enough that day for my customers. Do you produce this boy as a witness?—No, sir, I shouldn't recognise him again, as we frequently buy milk when we run short. Mr. Monckton (cross-examining): Surely you would know the boy?—Defendant: No, sir, there are so many boys running about selling milk. Do you mean to tell the Magistrates that you buy milk from any boys you meet in the streets to sell to your customers?—We have to buy milk sometimes. A previous conviction for a similar offence in 1892 having been proved, defendant was now fined £10 and 10s. costs.

BORON OR BORACIC ACID: A NICE POINT IN LABELLING.—At Brentford, on March 26th, the solicitors in the case *Tyler v. The West Surrey Central Dairy Company* submitted to the justices the label which the defendants proposed to place on their jars of cream, until a settlement by the Government of the use or prohibition of preservatives. Mr. Carey, for the defendants, reminded the court that the case had been adjourned *sine die* to await this decision on condition that a label disclosing the nature of the defendants' cream was placed on the jars as notice to the purchaser. The court had left it to the counsel engaged to decide the terms of the notice, which had now been settled, and which was to the effect that the cream contained a certain quantity of "boron" preservative. Mr. Reeves, for the Middlesex County Council, said that he had placed the matter before his General Purposes Committee, who declined to accept the word "boron," inasmuch as it differed from boracic acid, the substance mentioned in the original proceedings. The Chairman (Mr. A. S. Montgomery) said that he thought "boron" misleading. The prosecution was in respect of boracic acid, and it was agreed at the hearing that those words should be on the label. Mr. Carey replied that "boron" was a well-known trade term for the preservative used. It was not exclusively boric acid or borax, and to use the term "boracic acid" would not truly state the compound in the cream. The word "boron" was accepted in the Hudson case. The Chairman: As it stands the prosecution are not satisfied. Mr. Carey said the County Council had no *locus standi*. The court left it to the two counsels to agree. They had done so, and he asked the court to say if it was satisfied. The Chairman: We are not satisfied; boron is not boracic acid, the term



which was used on both sides in the case. What you have to do is to satisfy us that boron is boric acid, and you have not done it. Why not put "boracic acid" on the label? Mr. Carey: We cannot agree; it would kill our trade, and we might as well shut up our premises if we told the public we used boracic acid. The Chairman: I think you are giving your case away when you talk like that. You rather intimate trying to hoodwink the public. Mr. Norris said that he was bound by the instructions of his committee. The Chairman: Very well; the court cannot accept the label if the parties differ. The case stood adjourned for you to agree on the label; as you cannot do so it must come on again for hearing.

**COFFEE PROSECUTION.**—At Burnley, on April 4th, Alice Pickup, Huffing Lane, was summoned by Inspector Williams, for selling adulterated coffee. The coffee contained seventy-eight parts of coffee and twenty-two parts of chicory. Mr. Smith-Lawson, solicitor to the Burnley Grocers' Association, appeared for the defence, and stated that the assistant was under the impression that the purchaser was someone living near the shop, and she did not think it necessary to tell them it was a mixture. It was an understanding with the defendant that the assistant should tell all customers that it was a mixture. Several of them who had been told repeatedly knew perfectly well that they were buying a mixture, and the assistant thought the purchaser on this occasion was one of these. The Magistrates imposed a fine of 10s. including costs.

**VINEGAR PROSECUTIONS.**—At Marlborough Street Police Court, London, on March 31st, R. and N. Pott, vinegar manufacturers, Sumner Street, Southwark, London, were charged with selling to Messrs. Bodilly and Co., 19, Air Street, Piccadilly, vinegar to which a false warranty was attached. Mr. Courthope Munro prosecuted, and Mr. Bodkin appeared for the defence. Mr. Courthope Munro said that a sample of the vinegar in question had been purchased by Mr. Calverly, an official in the employ of the St. James's Vestry. Dr. Edmunds, public analyst, certified that it contained 0.134 per cent. of added sulphuric acid. It was not suggested that it would be injurious to health to use the vinegar, but the mischief was that pure vinegar made of acetic acid would cost a considerable sum, while vinegar made from sulphuric acid would only cost about a penny a gallon. Dr. Edmunds said that the sample of vinegar contained seven times more sulphuric acid than the normal quantity found in good vinegar; while Dr. Moritz, who had also analysed the vinegar, certified that it contained no added sulphuric acid. Dr. James Edmunds, medical officer of health and public analyst, deposed that there was seven or eight times more sulphuric acid in the sample than there should be in vinegar made from good drinking water. He did not think it would be injurious to health to use the vinegar. With drinking water, burnt sugar, and sulphuric acid, vinegar could be made at the cost of a penny a gallon, whereas good vinegar made of acetic acid would be worth far more. Pure malt vinegar could not contain any free sulphuric acid. London manufacturers of vinegar had to use soft water because they could not get hard water. If manufacturers in the Midlands were allowed to use hard water he thought London manufacturers should be permitted to bring the water up to the same standard. Mr. Bodkin, in defence, said that Messrs. Pott had been carrying on business at the same premises for about the last 300 years. Dr. Edmunds, by his analysis, had imputed that sulphuric acid had been added to the vinegar, but he (Mr. Bodkin) would show beyond all question that no sulphuric acid was ever added to the vinegar made by Messrs. Pott. They never kept any on their premises, and the warranty they gave with the vinegar was absolutely true. Mr. Norbury Pott deposed that his firm had for years past been supplying the Admiralty with vinegar and no complaints had been received about it. It had been analysed at Somerset House and he had never received any complaints as to its quality or purity. His firm did not

keep sulphuric acid on their premises, and never put any of it in the vinegar they manufactured. Dr. Moritz, F.I.C., stated that he had examined the vinegar of Messrs. Pott, and found it to be pure and wholesome. It did not contain sulphuric acid. Up to a certain extent the presence of sulphate of lime in water was favourable to the brewing of vinegar and beer. He could not find even a trace of free sulphuric acid in the vinegar. Mr. Fenwick adjourned the further hearing of the summons in order that a sample of the vinegar might be sent to Somerset House for analysis.

At Bristol, on April 6th, Robert Henry Carter was summoned for selling a pint of vinegar which was not malt vinegar, as demanded. Mr. Wise prosecuted, stating that when vinegar was asked for, either malt vinegar or distilled wood vinegar might be supplied, but in this case malt vinegar had been asked for and the other supplied. A letter was handed in from Mrs. Carter, admitting the offence, and stating that her husband knew nothing about the business, and had supplied the wrong kind of vinegar in ignorance of the difference. The Bench imposed a fine of 5s. and costs.

**UN SOUND FOOD PROSECUTION.**—At Nottingham, on March 27th, Oswald Hooley, fruiterer, of 183, Radford Road, was summoned at the instance of Samuel Billington, inspector of nuisances, for exposing for sale 13 lbs. of bananas, the same being unfit for food. Mr. H. W. Day (from the Town Clerk's office) appeared to prosecute, the defendant being represented by Mr. J. Johnstone. The Inspector stated that on the date mentioned he saw on the defendant's window board a basket containing 36 bananas. They were black and pulpy, and quite unfit for food. The defendant's mother who was in charge of the shop, told him that they had been put in the basket to be thrown away. Dr. Boobyer, medical officer of health, corroborated the inspector's statement with regard to the condition of the bananas. It would have been dangerous for anyone to eat them. For the defence, Mr. Johnstone submitted that the fruit was not being offered for sale, and evidence in support of this contention was given by the defendant's mother. The Magistrates imposed a fine of 10s.

**DEMERARA SUGAR PROSECUTION.**—At Haverfordwest, on March 26th, J. and J. P. Reynolds, grocers, were charged with selling spurious Demerara cane sugar. Mr. W. J. Jones, who defended, had disputed the analysis, contending that, upon the face of the certificate, he had no case to answer, as Demerara sugar was cane sugar, and as the natural colour of the sugar was yellow the sugar could not be dyed. The court therefore sent a sample to Somerset House, who endorsed the analysis of Mr. C. A. Seyler that the colouring of the sugar was artificial and due to aniline dye. Mr. Jones urged that the offence was purely technical, and that the purchaser had not been prejudiced in any way, as the sugar was really cane sugar. A letter was read from Mr. Seyler, in which he said: "In my opinion I do not think that sugars, even though pure West Indian cane, which owe their colour almost entirely to aniline dye are entitled to be called Demerara, of which the colour is entirely natural. An important case was tried at Tunstall, in which it was decided that what is known to the commercial world as Demerara sugar is pure cane sugar undyed. I regard a sugar which has been dyed as an attempt to imitate true Demerara sugar, and to give an inferior sugar, wanting in the flavour and aroma of true Demerara, a fictitious value, and to pass it off on the purchaser to his prejudice." Mr. Jones said the defendants had bought and sold the sugar in the honest belief that the article was what it was represented to be. The Bench said they believed the defendants had acted in good faith, but there had been a technical breach of the law. They would, however, take advantage of the option allowed them by the Act, and dismiss the case on the payment of costs.

**SPIRIT ADULTERATION PROSECUTIONS.**—William Oldfield, the landlord of the Blue Bell Inn, North Wingfield, appeared before the Chesterfield County magistrates on



Saturday, charged with selling on February 15th, by the hands of his agent, Elizabeth Oldfield, rum not of the nature, etc., demanded, the alcoholic strength being 46 degrees under proof instead of 25 degrees under proof, as allowed by the Act. Mr. William Henry Stead Crabtree, County Council Inspector under the Food and Drugs Act, prosecuted and gave evidence as to purchasing the spirit. He read to the Bench the statement of the County Analyst. Defendant said his wife sold the spirit out of a jug into which he had been rinsing some others. He had not acquainted his wife of what the jug contained and he was away when the Inspector called. The Chairman: What were you going to do with the mixture? Defendant: We were going to empty it into a bottle for our own use. (Laughter.) Mrs. Oldfield said when she informed her husband of what she had done he remarked, "You'll be summoned." Defendant was fined £2 and the costs, 18s. 6d.

At Bristol, on April 6th, Charles Winstone, was summoned for selling three noggins of whisky which were three degrees under the minimum strength. Mr. Wise (from the Town Clerk's office) prosecuted, and Mr. Pomeroy defended, the former stating the defendant was the proprietor of the Lamb and Anchor, Milk Street, and on the instruction of the Inspector of Foods and Drugs, a lady bought three noggins of whisky at his house, and it had been submitted to the public analyst. Mary Ann Fernleigh spoke to purchasing the whisky. In reply to Mr. Pomeroy: The defendant was not in the bar. She was asked whether she would have 6d. or 7d. whisky, and she said the sixpenny. Mr. Simpson, the inspector, produced the analyst's certificate, which showed the sample was three degrees below the minimum strength. Mr. Pomeroy said the defendant had been the licensee of the house for about 15 years, and this was the first charge brought against him. He kept for sale a certain whisky and reduced it from proof to 23 degrees. In order to supply the requirements of another class of customers, this was further reduced in small quantities for retailing to customers who wished to pay a lower price for their whisky. He made a practice not to reduce any whisky below 25 per cent. On the day in question he was away on business, and the jar of the cheaper whisky became empty. The barmaid refilled it, and instead of putting in half-a-pint of water to two gallons of whisky, she must have put it more by mistake. She was accustomed to refilling this jar when Mr. Winstone was away, but she must have taken up a larger measure than a half-pint one by mistake. After hearing the evidence, the bench said an offence had been committed, and the defendant would be fined £1 and costs.—Frederick John Cross was summoned for selling three noggins of whisky which was not of the quality demanded, but was 9.6 degrees below the minimum strength. Mr. Wise prosecuted, and Mr. H. R. Wansbrough defended. Mr. Wise stating that on March 12th a lady went to the Sugar Loaf public-house, Milk Street, of which the defendant was the proprietor, and asked for three noggins of sixpenny whisky. She was supplied, and it was found to be 9.6-10 degrees below the minimum strength. A conversation took place between the defendant and Mr. Simpson, and the defendant gave as a reason why the whisky was below strength that there was such keen competition in the neighbourhood. Mrs. Fernleigh spoke to purchasing the whisky. Cross-examined by Mr. Wansbrough: The landlord did say it was not the best whisky. She had purchased once before sixpenny whisky for Mr. Simpson at that house and she had understood from Mr. Simpson that it was not what it ought to be. Mr. Simpson spoke to receiving the whisky, and to having a conversation with the defendant, who used the phrase mentioned by Mr. Wise. Cross-examined by Mr. Wansbrough: He had sent Mrs. Fernleigh for the sample of whisky to see if they were still selling the same whisky as had been supplied her on a previous occasion. Mr. Wansbrough said the defendant had held the license for eighteen years. The Act of Parliament made it an offence for a person to sell that which was not

of the nature, substance and quality of the article demanded, to the prejudice of the purchaser. The purchaser was not prejudiced if he knew what he was buying or had reasonable cause to know. He mentioned the case of Webb v. Knight, submitting that if a notice were put in a bar saying "All spirits sold here are diluted," that would absolve the licensee from any prosecution, whatever the extent of the dilution. If a notice of this kind was a defence, so also was knowledge by the purchaser a defence. He submitted that Mrs. Fernleigh went to the house for the same whisky as he she had been supplied with before—and that had been diluted—and she therefore had knowledge she was buying diluted whisky. Mr. Wise said the frame of mind of Mrs. Fernleigh when she entered the house was immaterial, as Mr. Simpson was the one who really purchased the whisky. The bench said they considered the case fully proved, and imposed a fine of £3 and costs.

WEIGHTS AND MEASURES PROSECUTIONS.—At Abertillery, on March 30th, Mr. T. E. Serjent, inspector under the Monmouthshire County Council, summoned the Abertillery Co-operative Society for selling bread otherwise than by weight, and also for having bread for sale without being provided with scales and weights. The unweighed loaf purchased by the inspector was 2oz. short of the required 2lb. Fined £2 and costs on the first charge and £3 and costs on the second.—Benjamin Watkins, Tillery Street, was similarly charged, the loaf purchased in this case being 3oz. short of 4lb., was fined a like penalty.—Thomas Robbins, Liverpool Stores, and David Edwards, butcher, were summoned for having unjust and unstamped scales. In the case of Robbins there were 12drs. short in 4lb., and Edwards' scale showed 2oz. short in 7lb. Defendants, who pleaded that they had not received the notice from the inspector that the scales were defective, were ordered to pay costs.

At Alfreton Petty Sessions, on April 6th, Mabel Walker, of Somercotes, pleaded guilty to an offence against Section 7 of the Bread Act, viz.: "For failing to carry scales and weights or other sufficient balance, so that the bread sold by her might be weighed." She was fined 10s., including costs. Inspector W. H. Stead Crathei, prosecuted, and Assistant-Inspector Short proved the case.

At the South Shields Police Court, on March 28th, Williams Burns, of Sunderland, was summoned for unlawfully using for trade certain measures which were unjust. Mr. F. W. St. Hall, inspector of weights and measures, said that on the 12th February, he visited the defendant's shop in Laygate Lane, and found two vinegar measures, one a pint, and the other a half-pint one, which were deficient. He asked the assistant, who was in charge of the shop, if the measures were in use, and he replied that they were. A fine of £2 and costs was imposed.—John Joseph Bell, grocer, Laygate Lane, was summoned for having an unjust stand scale, and also for having an unjust counter weighing machine, on the 22nd of February. The Town Clerk prosecuted, and Mr. J. E. Miller, North Shields, defended. Mr. St. Hall said he and his assistant examined the stand scale, and found it to be four drachms against the buyer. Defendant told witness he had bought a new plate for the scale, and as it was not of proper weight he put a piece of tea lead on the bottom to balance it. With respect to the second charge, a piece of fat bacon was found between the plate and one of the forks of the scale. This made it 14 drachms against the purchaser. Without the fat it was 4 drachms wrong. For the defence, it was urged that there was no intention to give wrong weight. With respect to the piece of fat, it was only intended to make it appear that customers were getting good weight. A fine of 50s. in each case and costs was imposed.

On the information of Mr. W. H. Stead-Crabtree, inspector of weights and measures, Messrs. Willcock and Co., coal merchants, Chapel, were summoned at Chapel-en-le Frith Petty Sessions, on March 29th, for selling coal to Sarah Nall and Benjamin John Fuzzard without giving



tickets setting forth the weight of the coal and other particulars, and with failing to have the tare weight displayed on the cart. The offence was admitted. The Inspector spoke to visiting Chapel and detecting the offence complained of. In the case of the delivery of the coal to Fuzzard, the carter delivered a ticket, but in his (the inspector's) opinion it was not in accordance with the schedule set out in the Act. The weight of the coal was right. It was also necessary that the tare weight should be painted or otherwise displayed on the cart. He did not object to chalk, so long as the tare weight of the cart was legibly stated. With regard to the coal supplied to Mrs. Nall, the defence was that defendants did not think it necessary to supply tickets when coal was supplied in bags. The Clerk said coal dealers seemed to overlook the fact that when several bags were sold to a customer, it was necessary, as the weight was over 2 cwt., that a ticket should be supplied. The defendants claimed that it was due to the negligence of the carter that the tare weight was not put on the cart. The particulars were in the office. They pleaded guilty to a technical offence, but had not previously been aware of the legal requirements that had to be complied with. The Chairman said the Bench found the defendants were technically guilty. They did not think at all that there was any intention to defraud, but thought that it had merely been an error. The law, however, had to be complied with. It was the first case of the kind they had had before them, and they were therefore anxious to deal leniently with the defendants, who would only be fined 1s. and costs in each case, 42s. 6d. The Bench considered there was no reflection at all on the character of the defendants.

**BAKING POWDER PROSECUTIONS.**—At Swindon, on April 9th, Mr. H. Bevir mentioned the case of Louisa Holyoak, shopkeeper, of Upper Stratton, who was summoned on March 15th on two charges for selling baking powder and also egg powder, which contained 18 parts and 19 parts respectively of alum, which made it injurious. The case was proved by Mr. Sam Smith, local inspector under the Food and Drugs Act, and the Bench imposed a fine of 21s. to include costs, in respect of each case—two guineas in all.—Jane Wall, grocer, of Clifton Street, Swindon, was summoned for selling four packets of baking powder, Nation's American Baking Powder, which contained 20 parts of alum. Defendant's son appeared. Mr. H. Bevir prosecuted, and called Sam Smith, the local inspector, who spoke to purchasing the powder. Dr. Dyer, county analyst proved the analysis of the powder, which contained 20 parts of alum. The Chairman said the Bench looked upon these cases as very serious, and in the future the penalty would be a great deal heavier. The retailers could protect themselves by having the goods they received analysed, or by getting a warranty with the goods. These injurious ingredients were put in solely for the purpose of making money. Defendant would be fined £1 and costs. Mr. Bevir stated that the penalty could be made £50.—Edward Rogers, grocer, of Faringdon Street, Swindon, was summoned for selling eight packets of baking powder not of the nature demanded. Defendant pleaded guilty, but stated that having written to the firm who supplied the powder, they had told him that their traveller had been instructed to inform him of the circumstances attending the sale of baking powder, and this he had evidently neglected to do. They stated that he had better plead ignorance, and they would pay any fine that might be imposed. The powder sold by the defendant was the Canadian Baking Powder, and the Bench dealt with the case in the same way as the last, £1 and costs.—Farnham Budget, of the firm of Farnham Budget and Son, of 52, Redcliffe Street, Bristol, tea merchants, were summoned for selling baking powder containing injurious ingredients at their Fleet Street Shop, Swindon. Defendant's son appeared, and pleaded guilty, and the Bench inflicted a penalty of £5 and costs.—Angus Priestley, of Manchester Road, Swindon, pleaded guilty to a similar charge, and stated that he obtained his powder from Mr. Lydiard, of Faringdon. Fined £1 and costs.—Henry Edwards, of

Manchester Road, Swindon, pleaded guilty to selling "Sinclair's Gold Medal Baking Powder" not of the nature demanded.—Fined £1 and costs.

At the Liverpool City Police Court, on April 11th, Thomas Ward, 74, Paddington, was summoned for selling baking powder which contained 33 per cent. of alum. Mr. Saunders prosecuted, and intimated that this was the first case taken under the new Act, which came into force in January of this year, and which made baking powder an article of food. Mr. H. F. Neale, defended with conspicuous ability, and admitted a technical offence. The powder was supplied in November last year by a man named Christian, a wholesale dealer. The manufacturers were Messrs. Lee, Bliss, and Co., of Northwich, and the powder was marked, "Warranted genuine." When the new statute was passed the manufacturers drew the attention of their customers to the fact that it might be advisable to get rid of surplus stock before the new Act came into operation. A copy of the circular drawing attention to the matter was sent to Christian, but not to the defendant, and he, thinking it a genuine article, continued to sell it. The case was ultimately withdrawn on payment of the costs, 15s.

Sam Robinson, grocer, Bondgate, Otley, was summoned at Otley, on the information of Mr. Henry Gamble, inspector of weights and measures, etc., for exposing for sale margarine which was not labelled. When asked to plead the defendant admitted that he had no ticket on, but should like to explain. The Chairman: Do you mean to plead guilty? No. Mr. Gamble said he visited Mr. Robinson's shop on Wednesday, the 21st of February, for the purpose of inspecting his weights and scales. On a slab in the shop he saw three pieces of butter, and he thought he had better take a sample. He, therefore, said to the defendant, "I will have a pound of that butter?" Defendant asked "Will you have it mild or salt?" and witness replied "I don't care which it is. I will have a pound of this. Defendant then said "That is not for sale." Witness replied, "It is exposed for sale, and I will have a pound of it." Defendant said he was going to use it for baking purposes, and he fetched a bowl of flour to show that he intended baking. Witness said "I must have a pound of it." Defendant said "It is not butter; it is margarine." He (Mr. Gamble) said "Whatever it is I must have a pound." He then purchased a pound, and divided it in the usual way. The analyst's certificate stated that the sample consisted of margarine, and contained not more than 5 per cent. of real butter. The sample was analysed before any change had taken place which would interfere with the analysis, as regarded the defendant. The defendant said the inspector had related ten times more than what took place. In reply to the defendant, Mr. Gamble admitted that he was going to cut him a pound of butter, and that he told him the piece selected was margarine. The defendant said he had had a tin label bearing the word "margarine," but whilst cutting some bacon he hit it with the saw and smashed it, and he was without at the time of the inspector's visit. That was the long and the short of it. He did not intend to defraud anyone. He sold margarine, and advertised it. Mr. Gamble pointed out to the Bench that the defendant had been previously fined for a similar offence. A fine of 10s. and costs was imposed.

**OLIVE OIL PROSECUTION.**—At Watford, on April 3rd, William Florence, Station Road, Rickmansworth, was summoned for selling cottonseed oil as olive oil. Mr. W. G. Rushworth said that the oil was purchased by his assistant. Mrs. Florence afterwards told him she did not know that she was right in selling it for olive oil; she did not think she ought to sell it for drinking purposes. Defendant assured the Bench that it was a mistake which would not have occurred if he had been present. The Bench considered that it would be sufficient if defendant paid the costs, £1 2s. 6d. They did not think there was an intention to defraud.



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## Food and Sanitation.

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### Dietetic and Hygienic Notes.

#### The Food Problem of Infancy.

In a paper under this title, published in the *Maryland Medical Journal*, Bond discusses, among other subjects, the phases through which artificial feeding in infancy has passed. The effort to nurture the infant artificially is evidently moving, he thinks, in a circle to its starting point, where it has just arrived. Of old the raw milk of various animals was used, that of the cow being finally accepted as the most convenient. It served fairly well for the robust children of country districts and small towns.

Delicate children, however, as those of the great cities, had not the power to digest it satisfactorily, and numerous plans for adapting it to their needs were introduced. Lime water was added to correct its acidity; to prevent large curds in the stomach, easily-digestible and nutritious "gummy things" were added to it, as barley water, toasted cracker dust, the powdered core of a ball of flour long boiled, arrowroot, gelatine, etc.; later, predigestion of the milk by pepsin, malt, and other ferments was much lauded. Manufacturing firms took up these ideas as they were successively advanced and flooded the markets with ideal infant foods and "humanized" milk preparations of more or less value to the babe. They furnished, too, many brands of evaporated milk, very convenient to the mother and supposed to be especially pure because derived from choice herds in healthful mountain districts. These firms spent much honest thought and labour on the subject, adding dried fruit and even bone-dust in the effort to meet infant needs. Then the germ theory of disease-causation arose, giving an enormous impulse to the study and throwing wonderful light upon the origin and progress of many human ailments. It was discovered that countless micro-organisms swarmed in contaminated milk and in the ill-digested milk residues of summer complaints. It was believed that these diseases were initiated by the ingestion of milk infected by micro-organisms of disease, and that if all milk given were sterilized by boiling, infants would not have summer complaints. It seemed for a time that we had solved the problem of artificial infant-feeding. But, alas! this dream was soon dispelled. Experience soon showed that long-boiled milk was unwholesome, and the process of Pasteurization at a lower temperature was substituted. But this required expensive thermometers and elaborate precautions which put it out of the reach of the poor. Then Professor Rotch, of Boston, put forth the theory that raw cow's milk owed its indigestibility in infants to the unwholesome proportion of its ingredients, and held that by centrifugalizing off the cream and recombining the milk with its cream, with a milk-sugar solution and with lime-water according to most intricately worked out formulas, and Pasteurizing, it could be made to agree with any infant and to meet alone the whole situation. This process being very expensive, a glass measure, graduated for each of these ingredients, was invented, so that mothers might "modify" the milk at home for their babies. Then physicians began to modify according to their own ideas the modifications of Rotch, and the prestige of this method was lessened.

Now we are going back to simple cow's milk, our grandparents' method. From the cycle of effort just described we have learned to add lime-water (one-twentieth part), to take somewhat more of the upper creamy part of the milk for the sake of the fat, and with the possibly impure milk of cities to urge Pasteurization upon well-to-do mothers. We have learned in case of the mildest indigestion to lesson first one and then another of the ingredients of the nursing-bottle (as represented by the skimmed milk, the creamy layer, and the sugar), until something is obtained upon which the infant can gain in health and weight.

Still the ideal is not reached. Many a baby lies awake all night weeping because it was not born a calf! If we could only modify that baby! Or, one other possibility, cannot we modify the mother into a healthy woman? Our work on the cow's milk having gone round the circle to its original starting place, and the baby remaining obstinate, it really seems possible that the next effort to solve the great food problem of infancy may be along the line of radical modification in our ideas concerning the physical education of those who will preside over the silent meditations of infancy in the coming century.

The author, having come to the conclusion that the vaunted education of our growing girls has been founded on a fearful mistake, notes with satisfaction the recent tendency toward simplification of studies and promotion of outdoor athletics in the schools of the wealthy. Such bold



expressions of opinion as we find in a recent address of the president of the Woman's College of Baltimore, added to the humbler protests of writers like Carisabel, give us hope that our schoolgirls will no longer be given to cutting classes and decoying teachers into unprofitable disquisitions in order to save themselves from excessive brain work. We look forward to the time when these enlightened ideas of education shall be extended to the public school system of our cities, where far more extensive injury is being inflicted on those who will be the mothers of our future community.

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### Alarming Report on St. Pancras Milk Supply.

THE bacteriological examination of milk samples, recently authorised by the St. Pancras Vestry, has revealed an alarming state of things in the cow-keeping trade. According to the scientific expert, nearly half the samples taken were unfit for human food, and contained pus, which could only come from inflamed or diseased bodies, while several contained bacteria in endless variety. Milkmen are to have one more chance given to them, and after being warned of the Vestry's intention to take samples for bacteriological examination they will be taken before a court of law should their milk disclose germs which, in the opinion of the scientific expert, render it unfit for consumption.

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### London County Council and Tuberculous Milk.

A VERY important report has been made by the London County Council, which body decided last November to ask Dr. Klein to examine 100 samples from the country milk sent to London, in order to see if any of them contained tubercle. Up to the present he has analysed 97.

Seven samples contained tubercular matter; and of these three were found to come from Essex, and the remainder from Surrey, Sussex, Derbyshire, and Wiltshire respectively.

The Council communicated with the sanitary authorities concerned; but only four of them replied. In one case only did the local body proceed to the trouble of examining the animals from which the milk came, and the result was to show that apparently they were not diseased.

The report says that unless provincial sanitary authorities co-operate with the Council it will be impossible to safeguard the public against tuberculous milk.

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### Queer Unsound Food Case.

SANITARY INSPECTOR FOOT, of the Bethnal Green Vestry, brought to Worship Street Police Court, a barrow-load of canned food, which he had seized, and asked Mr. Cluer, the magistrate, to condemn it as unfit. The inspector had a sworn certificate of the medical officer of the parish that the goods were unfit for food, besides an admission by the shopkeeper to the same effect. Mr. Cluer, however, declined to condemn the lot from the samples submitted in court, and insisted on every can of the load in the courtyard being opened. Out of fifty-one tins of sardines he condemned only seven, leaving the inspector the obligation of carting back the remaining forty-four, and possibly being sued for illegal seizure and damage to the goods. Shortly before that some Gruyere cheeses, which had been seized, were brought to the court in a scavenger's cart for condemnation. Mr. Cluer, however, refused to condemn, and the cheeses had to be carried back to their owner.

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### How Milk is Contaminated.

HENRY BURMAN, of Asylum Road, Peckham, was summoned, at Lambeth on Monday, by the London County

Council for carrying on the business of a purveyor of milk without being registered. There was a second summons against the defendant for failing to give notice to the Council immediately upon the outbreak of an infectious or dangerous disease, to wit, diphtheria, on his premises. The defendant admitted the offences, but pleaded that he was ignorant of the requirements of the law. Mr. John Collman, who supported the summonses on behalf of the Council, stated that on the 25th February the defendant's sister-in-law was certified to be suffering from diphtheria, and on the following day Mr Eagle, an inspector in the service of the Camberwell Vestry, warned the defendant that as he sold milk he must give notice to the Council. That the defendant neglected to do. The defendant could scarcely plead ignorance because he had previously been registered in respect of other premises. The defendant said he stopped the sale of milk when the illness occurred. Mr. Hopkins remarked that this was the very way in which a disease like diphtheria was spread. He ordered the defendant to pay a penalty of £5 and £1 11s. 6d. on the first summons, and £5 and 2s. costs on the second.

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### Adulteration in Norwich.

MR. FRANCIS SUTTON, Public analyst, in his annual report says:—The number of samples examined in they ear is 115, out of which 5 samples were found to be adulterated. One of these was a small quantity of alum in bread; another was a slightly defective sample of sweet spirits of nitre; another was deficient fat in milk, but on inquiry it was found that the milk was actually sold as a 12-hour skimmed milk; the fourth sample was a sample of gin below legal strength, but as the notice of the police-inspector was called to a statement in the place where it was sold, no action could be legally taken; the fifth sample was a milk deficient in fat by being mixed off with about 15 per cent. of separated milk. This latter case is therefore the only one in which a prosecution is likely to be successful. This latter case has only just occurred, and is one of the samples collected out of 31 by the new inspector, who is acting as collector under the new Act. It will be noticed that the total number of samples is less by 10 than the usual number collected. This has arisen because the collectors were not able to get certain samples ordered, and as I have in former years sometimes exceeded the number agreed upon, the number is practically balanced. The nature and the number of the various samples examined are as follows:—32 milk, 2 adulterated; 13 bread, 1; 23 butter, 0; 3 condensed milk, 0; 9 flour, 0; 8 port wine, 0; 10 gin, 1; 2 vinegar, 0; 2 sherry, 0; 2 golden syrup, 0; 2 paregoric, 0; 4 laudanum, 0; 3 tincture of rhubarb, 0; 2 spirits of nitre, 1; total adulterated, 5. The percentage of adulteration is therefore 4½. With respect to the arrangement now made by appointing a special collector to act through-out the whole county, it is hardly possible to tell from one quarter's work what the effect will be, but I am of opinion that if he continues to collect samples personally he will not be more successful in getting defective samples than the previous collectors. This is the experience of all places where the the Act is freely carried out.

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### Edible Fungi.

MUSHROOMS are a delicacy, yet a light nutrient. There are but few persons who do not relish them, but such fatal mistakes are made by gatherers that many are disinclined to eat them, or at least do so with more or less reluctance. The fungi for table use are less appreciated by the English than by the Americans.

The poisonous fungi so closely resemble the edible variety that it gives the public press frequent opportunities to report fatal cases of poisoning from toadstools and their like. While it is true that there is a similarity, still a careful study of the various species will enable anyone to avoid error.



About 115 species are known, but only about fifty of this number have been used as articles of food. It is a good rule when gathering mushrooms to exclude those that have a woody texture, taste unpleasant, bitter, peppery, or acid, or if slimy in appearance, accompanied by a disagreeable odour. It is surprising that their culture is not carried on more extensively, since it would not only be a means of avoiding cases of poisoning, but a source of great profit.

In an editorial the *London Lancet*, October 7th, 1899, the subject is treated as follows:—

“Mushrooms are nourishing and have an inimitable flavour and are accompaniments to other dishes. They contain 10 per cent. of solid matter; one-half of this is flesh-forming or nitrogenous substances. The ash is particularly rich in the most valuable salt in dietetics, phosphate of potassium. However, they have a compeer in the meadow. The edible grow in dry, airy places, while the poisonous mushroom grows in clusters in woods, shady and damp places. The edible have compact, brittle flesh; the poisonous, soft, tough and watery. If cut, the good have no change in colour by the action of the air, but in the poisonous fungi a brown-green or blue tint appears; in the edible the juice watery, in poisonous milky; odour of the edible agreeable, the other pungent and disagreeable; edible not bitter or astringent, but they characterize the poisonous mushroom.”

Toxic symptoms resemble narcosis, drowsiness, giddiness, dimness of sight, vomiting and purging.

*Remedies.*—Emetics; tea, tannin, Hoffman's anodyne, draughts of hot water, emeto-cathartics, stimulants. The physiological antidote is belladonna.—*Medical and Surgical Monitor.*

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### The Manufacture of Oleomargarine.

OLEOMARGARINE has become such a widely used substitute for butter that our readers will be interested to learn how it is made. According to Annett (*Lancet*), margarine was first prepared by Mège-Mouriès. In his process 1,000 kilograms of ground fat from freshly slaughtered cattle is mixed with 300 kilograms of water, 1 kilogram of potassium carbonate, and 2 sheep's or pigs' stomachs cut into pieces, and is treated at 45° C. by steam for two hours. The fat rises and, after being skimmed, is run off and heated at from 30° to 40° C., with a 2 per cent. of salt, the clear fat being then poured off from the sediment and cooled at from 20° to 25° C. The granular solid product is cut into pieces, packed in linen, and exposed to hydraulic pressure at about 25° with the production of a solid cake of stearin and a liquid oleomargarine which is passed through cylinders and washed by a shower of water. Of the melted oleomargarine 50 kilograms are mixed with 25 litres of cow's milk and 25 kilograms of water in which have been macerated 100 grains of finely-ground mammary gland of the cow. Annatto is added and the whole churned for about two hours and the product kneaded and washed.

In the method employed in the United States, Austria, and some parts of Germany, pepsin is not added, the original finely-ground fat being subjected to a temperature below 50° C. for some time. The oleomargarine is mixed with sour milk and a small quantity of bicarbonate of soda and annatto, and is churned. After about 15 minutes it is cooled in ice and then kneaded to eliminate the water, then returned with more sour milk and is ready for sale. In Holland the margarine is melted at about 50° C. and is mixed with requisite amount of milk and of the best Kampen butter and earthenut (arachis) and other oils (cotton, palm, cocoanut, etc.) to lower the melting point to that of butter. The Kampen butter is prepared especially for this manufacture from an unskimmed mixture of milk and cream and is preferred on account of its powerful flavour which, though unpleasant alone, imparts a pleasant flavour to the margarine.

The *Western Druggist* gives the following ready method proposed by Dr. Rohlf's for distinguishing between butter and oleomargarine. A solution of two grams of potassium carbonate in 20 grams of water added to true butter quickly produces, upon working them together, a perfect, white, permanent emulsion. Shaking with an equal volume of ether the ethereal layer containing the butter separates clear at once, the layers being sharply defined. Pure oleomargarine treated in the same manner yields neither an emulsion nor a clear ethereal stratum. Equal parts of butter and margarine also yield an emulsion, but on shaking with ether no line of demarcation is formed, but the lower stratum of the ether, which only clears up after some time, contains flocculent clouds. One part of butter mixed with three of margarine yields an imperfect emulsion only after considerable trituration, which is decomposed by the addition of ten grams of water, while the other two emulsions named bear an addition of 20 grams of water. The ethereal layer in this case is filled with floccules throughout.

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### Vegetable Diet in Disease.

THE principal advantage of a vegetable diet lies in the fact that the formation of toxins in the intestinal tract is slight in comparison with that which follows the ingestion of animal food. The varying and often insufficient nutritive value, however, of vegetables presents no small obstacle to their systematic employment in disease. The difficulty attending their use is enhanced by the fact that the digestive system is incapable of extracting much more than half the nutriment they contain. In cases of muscular torpidity and dilatation of the stomach the quantity necessary for adequate nutrition is, by reason of its bulk, positively harmful. To the great improvements made within recent years in the manufacture of vegetable food preparations we owe a variety of substances which in point of usefulness and digestibility are scarcely inferior to meat. The demands made upon the digestive power of the intestinal tract by the large amount of ballast introduced in the form of cellulose with the vegetable food are not as excessive, however, as might be thought, for the food mass itself and the gases produced by fermentation of the carbohydrates and by putrefaction stimulate peristalsis and thus facilitate the intestinal contents.

Strasser, whose observations on this subject are published in the *Allgemeine Wiener medizinische Zeitung*, recognizes two kinds of vegetable diet cures. The first consists either wholly or principally of vegetables, the use of certain animal foods, such as milk, eggs, cheese and butter, being allowed in the latter case. The second is a fruit cure, which is not, however, sufficient of itself to sustain the patient, and can, for this reason, be used only as an adjuvant to the ordinary mixed diet.

A vegetable régime is of advantage in persons given to high living and taking little physical exercise—persons who are inclined to be constipated, plethoric, somewhat arteriosclerotic, and who show a tendency to gout or albuminuria. In such cases the improvement is often marked; the excretion of urates diminishes, and the acidity of the urine becomes less. The beneficial effects obtained from a vegetable diet in chlorosis Strasser ascribes to the change of dietary rather than to the diet itself, his belief being based upon the observation that chlorotics generally do well in such circumstances for some weeks, and begin to improve rapidly on returning to a mixed diet. In cases of hemophilia it is probable that the increased supply of lime salts due to a vegetable régime heightens the coagulability of the blood. The curative effects of vegetable food in scurvy are well known. Of gastro-intestinal disorders it is especially the class of neuroses (motor insufficiencies) which calls for a change of diet. The diseases affecting metabolism, notably obesity and gout, and, in a less degree, oxaluria, phosphaturia, and even diabetes, are



favourably influenced by a vegetable diet, the principal advantage in obesity being the reduction in the amount of food absorbed. As regards gout, Strasser expresses the opinion that the undesirable effects following the eating of large quantities of lemons, so much in vogue at the present day, largely outweigh the benefit derived from this

fruit. In diabetes vegetable diet has a place only inasmuch as it prevents too much meat from being taken. Chronic cystitis, pyelitis, and especially chronic urticaria, are favourably influenced by a grape cure, and in the treatment of psoriasis the use of strawberries has been attended with considerable success.

## Weights and Measures Notes.

### Alleged Attempted Bribery.

THE first case in Cardiff under the Public Bodies Corrupt Practices Act, 1889, was heard before the local Stipendiary Magistrate, on April 10th. Mr. David Rees, a grocer, of 38, Carlisle Street, was proceeded against under Sub-section 1 of Section 1 of the Act, which enacts that:—

"Every person who shall by himself or by or in conjunction with any other person corruptly solicit, receive, or agree to receive, for himself, or for any other person, of a gift, loan, fee, reward, or advantage whatever as an inducement to, or reward for, or otherwise on account of any member, officer, or servant of a public body, doing, or forbearing to do, anything in respect of any matter or transaction whatsoever actual or proposed in which the said public body is concerned, shall be guilty of a misdemeanour."

Mr. Ivor Bowen, acting under instructions from Mr. Halloran, municipal prosecuting solicitor, represented the Cardiff Corporation, and the defence was conducted by Councillor Lloyd Meyrick.

After a long preliminary argument as to whether that Court had jurisdiction, the Stipendiary said he felt satisfied that he could adjudicate on Mr. Bowen's assurance that two cases of similar character had been heard by stipendiary magistrates in the London courts.

Another argument ensued as to whether the fiat of the Attorney-General had been duly obtained, and whether a letter purporting to be signed by him could be accepted as evidence. Mr. Meyrick did not offer serious objection to the Court taking cognisance of the official signature, and raised a smile by saying, "It's the first time I have had the honour of seeing this great man's signature."

Inspector George Owen then swore that on the 19th February he visited defendant's grocery shop in Carlisle Street. They tested a scoop scales, and found it 5 oz. against the purchaser. Eleven weights were also tested, and found to be slightly deficient.

The Stipendiary:—In the aggregate do you mean?

Witness: Each weight was defective. Continuing, witness said that he told Rees that he should be forced to seize the scales, and he replied, "I didn't know it was so bad." The next day Inspector Jones told witness that Rees was in the front office of the Weights and Measures Department and wanted to speak to him. He went to the front office and defendant said, "I want to speak to you about those scales of mine." Witness asked Rees to come into another room, as there were other people at the counter. Inspector Jones was in the room witness took Rees into doing some adjusting work. Rees spoke in a low tone. Defendant said, "I have come about those scales you seized yesterday." Witness replied, "What about them?" Rees then said "I should like to hush the matter up, as I don't want it to be published in the papers." Witness, saying, "I will speak to the chief inspector," went into another room to see his chief. On returning he said to Rees, "The chief inspector has told me to tell you the matter will be proceeded with in a few days." Inspector Jones had left the room in the interval. Witness reported what his chief had said, and then he

added "Rees came up close to me, nudged me on the shoulder, and put a half-sovereign into my hand, saying, 'I will pay any amount to have the matter hushed up.' Witness looked at the coin and gave it back to defendant, telling him 'I am not allowed to receive money for hushing up matters of that sort.' Defendant then took the half-sovereign back, and then offered a silver coin, which was not accepted. Witness told defendant, 'You should not do anything of this sort to me.' No reply was made to this remark, and witness opened the door, and showed Rees out. Witness wished Rees 'Good morning,' and defendant's reply was, 'I hope nothing will come of this.' Witness immediately made a communication with reference to the matter."

Cross-examined: Defendant must have known that witness was not the chief inspector. He made no effort to see the chief inspector. Defendant didn't ask witness if he had the right to fine him. Nothing was said about paying a fine, and it was untrue that defendant said, "Well, if I am to be fined I might as well pay it now." Witness did not offer his hand out for payment. The coin was slipped into his palm unawares to him. Defendant said nothing about witness doing his duty.

Inspector Jones gave corroborative evidence, and Chief-Inspector Major deposed to the accuracy of Owen's statements as to reports to him over defendant's case.

Mr. Meyrick stated that the defence would be reserved, and defendant was thereupon formally committed to take his trial at the Quarter Sessions.

Defendant was admitted to bail in his own recognisances of £20 and one surety in a like sum.

The maximum punishment for a person found guilty for an offence under this Act is a fine of £500, or two years' imprisonment with hard labour.

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### A Scale that Tells Weight and Cost.

A SCALE that weighs articles and at the same time indicates the money value of the article weighed is the latest of useful inventions.

Say that a customer asks for six pounds of bacon at 7½d. per pound. The assistant places the piece of bacon on the little marble platform, adjusts the scale to the price per pound by the movement of a little handle, and then poises the balance by sliding a small weight along it. The correct weight of the bacon is found when the equilibrium is obtained, and the money value is indicated underneath. Whether the bacon weighs more or less than 6d. depends upon the assistant who has cut it, but the machine makes no mistake. The exact monetary value, at the rate per pound, is shown, and the customer can see it (provided the scale is on the counter), for the figures are indicated at the back of the balance as well as on the front.

The advantages derived from this clever mechanical contrivance are obvious:—The customer cannot be overcharged; the correct weight is paid for, and neither the buyer nor the seller suffers; the time of calculating the value at the rate per pound is saved; and there is no risk of mistakes being made,



This computing scale is the invention of an Englishman, who made the happy discovery whilst an invalid. There is nothing complex about it, or likely to get out of order, and a boy may manipulate it. Though it occupies little room it weighs from a quarter of an ounce up to 112lb., and the price of the article weighed may range from 1d. per pound upwards. A specimen is now to be seen at the Hotel Metropole in Leeds.

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At Blackburn, the Rishton Co-operative Society, Ltd.; Great Harwood Co-operative Society, Ltd.; James Astley, 1, Queen Street, Great Harwood; and Mary Jane Walsh, 46, Church Street, Great Harwood, were each summoned for selling bread otherwise than by weight. Inspector Bruce sent the son of Assistant-Inspector Atkinson into the shops for loaves, which were not weighed. Defendants, who had each been previously cautioned, were fined 10s. and costs each.

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### Inspectors and the Stamping of Beer Barrels.

MR. GRAY presided over the afternoon meeting, at Bradford, when Mr. O. J. Kirby read a paper on "Casks used as Measures of Capacity." The paper, which was illustrated by diagrams, suggested means by which, the reader thought, the difficulties in the way of denominating and stamping casks might be overcome by the use of water.—Mr. Kirby said it was quite clear that casks could be made and maintained at a constant capacity, but the instances of any effort to do so were very few, although casks were universally used as measures of capacity. To-day an inspector of weights and measures found a deficiency of between 11 and 12 per cent. on the quantity invoiced in three casks supplied to one customer. As a matter of fact, casks were seldom tested with a measure of capacity, some were gauged and denominated, others were denominated, but many were neither gauged nor denominated, the invoices being intended to give all the necessary information, correct or otherwise.

Mr. Philips (Oakham) said that it was impossible for a cask to stay at one capacity, and, in his opinion the only solution of the difficulty was the sale of beer by weight.

Mr. Birkett (East Suffolk) suggested two other methods which he thought were better than any of those which have been mentioned, though he admitted that they had serious drawbacks. One was that there should be fixed to every vat a verified and graduated measure, through which the beer must pass on its way to the barrel, and the alternative was that casks should be made

of corrugated steel or some other material that would show any alteration in the capacity of the cask, either by bulges or indentations.—Mr. Street (London) suggested that a properly certificated cask constructed on the principle suggested by Mr. Kirby should be kept by every brewer, to be used as a standard when the inspector wished to test the capacity of one barrel.

Mr. Granger (Birmingham) said that in his experience the law of averages showed that the brewers gave over-measure instead of under-measure. The barrels were always made larger to allow for the shrinkage which occurred when they were recoopered. Mr. Huley (West Riding) thought that Mr. Kirby had been too hard on the brewers in placing the deficiency at eleven or twelve per cent. Five years ago about 400 tests were made in the West Riding, and the average deficiency was not above three per cent., although there were cases in which it was as much as eight per cent. There was, however, little to complain of at the best breweries. Personally he thought the Merchandise Marks Act was the statute under which inspectors should proceed with regard to beer barrels. He believed that it would be a long time before they were called upon to stamp beer barrels, though a case would shortly be submitted to the High Courts in connection with recent prosecutions in the West Riding. He had, however, received numerous applications to stamp beer barrels, especially from the tenants of tied houses, who were often dealt with unfairly by the brewers. Mr. Kirby replied on the discussion, but no resolution was submitted.

On the motion of Mr. Allwood, seconded by Mr. Kyle (Surrey), it was resolved to grant £10 to the Municipal Officers' Association towards the cost of promoting the Local Authorities Superannuation Bill. The proceedings concluded with a vote of thanks to Mr. Gray for presiding, and to the Bradford Corporation for the use of the Council Chamber.

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### Curious Applications for the Hull Appointment.

THE Hull Corporation Markets Committee had 83 applications for the post of additional inspector of weights and measures at a salary of £80 a year. Among the applications were several men with University honours, two schoolmasters, a draper, a grocer, an engine driver, a signalman, a Scotch police-constable (with "certificate for drawing, music, and shorthand"), and a student who had "passed with distinction in Scripture." After going through the list the Committee invited Messrs. F. J. Bundy (Birkenhead), S. T. Barker (Macclesfield), and T. C. Dawson (Sunderland) to appear before them.

## Gold Storage Notes.

### An Attack on Cold Storage Foods.

"PHYSICIANS know," says the *Sanitary Record*, "that meats kept on ice a few days are not damaged materially, but such foods kept weeks or months are utterly unfit for human consumption. After death, animal foods soon lose certain life principles which constitute the essentials of nutrition. This is not a matter of theory, but of fact, and can be easily demonstrated. Should a person attempt to live on cold storage foods alone he would soon have indigestion, diarrhoeal troubles, lose weight, and suffer those indescribable pangs which accompany chronic want. In time he would starve to death. The diarrhoeal disturbances so common at summer resorts, and usually ascribed to change of water or climate, are in most cases due to the innutritious character of cold storage food."

A more absurd statement than the above we have seldom read.

Physicians know nothing of the kind. Experiments and analyses with cold storage foods have proved the very opposite. Dr. Rideal made an exhaustive investigation into the relative nutrient values and digestibility of chilled frozen and fresh meat and his conclusions published not very long ago directly demonstrate the falsity of the statements to which the *Sanitary Record* we regret to see gives currency. Indeed we are astonished that a journal of the character of our contemporary should publish such rubbish.

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### Edinburgh Ice and Cold Storage Company, Limited.

THE first annual general meeting of this Company was held in Dowell's Rooms, on April 5th, Mr. W. Brydon Hogg in the chair. The report on the financial affairs of the Company from its incorporation in October, 1898, to



31st December, 1899, was submitted and approved of. In their report the directors stated that although the works of the Company at Lochrin were not ready till nearly the end of the season, the quantity of ice sold had been very satisfactory, and the chill rooms had been increasingly taken advantage of by traders for the preservation of all kinds of goods. The profit and loss account for the short period to the end of the year, and during which only part of the plant was in operation, showed a profit of £29 9s. 7d., which sum was carried forward to next year's account. Several of the shareholders present expressed their satisfaction with the progress being made by the Company. The retiring directors and auditors were re-appointed

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#### South Wales Grocers' Council and Cold Storage.

At a recent meeting of this council Mr. Francis (Merthyr) proposed a resolution calling upon the G.W. Railway and other railway companies to provide cold storage trucks for the conveyance of provisions during the summer period. The speaker said he wished his resolution to refer more especially to the carriage of Irish and

Welsh butters. He knew a grocer at Merthyr who had had five or six consignments of butter arrive in a damaged condition, the cases were broken, and the butter was rancid. His association wrote to the G.W.R. Co., but notwithstanding that, he himself had had fifteen casks delivered to him that had been sent in an open truck with nothing but a black tarpaulin covering, and that in the most torrid weather last summer.

Councillor Thomas (Ystrad) seconded.

Mr. J. Williams (Cardiff) said the matter had been discussed by his association, and they were unanimously of opinion that the matter should be pushed forward before the summer weather came on.

Mr. Horton (Pontypridd) said a consignment of goods sent to him in March had not yet been delivered. They were still at Pontypridd Station, and if the boxes had contained butter they could guess what a state it would now be in.

The resolution was adopted, and ordered to be sent to the G.W.R. Co. and all the other companies whose lines run through South Wales.

## Official Reports and Notes.

#### Standards of Purity for Milk in America.

IN VIEW of the fact that a departmental committee has been recently appointed in England for the purpose of inquiring into the advisability of adopting a standard of purity for milk, it is interesting to recall that in America such standards have long been in vogue, and that they are now recognised in over twenty of the United States. Curiously enough the standards vary very considerably, so that the milk which would pass as pure and unadulterated in one State, would bring the vendor hopelessly within the clutches of the law in an adjoining district. In Massachusetts, for instance, the standard is such that the milk must contain 13 per cent. of solids, and of the solids not less than 3·7 must be butter fat. In the State of New York, close by, the standard only prescribes 12 per cent. of solids, and of these it is only necessary for 3 per cent. to be fat. Minnesota requires 13 per cent. of solids and 3·5 per cent. of fat, while New Hampshire stipulates for 13 per cent. of solids, and New Jersey for 12 per cent. Ohio seems less exacting in this respect than any of the States, because in summer time it is permissible for the solids contained in the milk sold there to fall to as low as 11·5 per cent. without rendering the sellers liable to prosecution.

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#### The Committee on Milk Standards—Evidence by Dundee City Analyst.

THE Departmental Committee on milk standards recently had before it Mr. G. D. Macdougald, City Analyst, Dundee. Mr. Macdougald submitted the results of his analysis of no fewer than 12,069 samples, extending over the period from July, 1897, to February, 1900, inclusive. The average composition of the entire series was as follows:—Fat, 3·82 per cent.; non-fatty solids, 8·68 per cent.; total solids, 12·50 per cent. He strongly recommended that the standard of fat, which up till now has been 2·75 per cent., should be raised to 3 per cent., and that of non-fatty solids, which is a practically constant quantity, should be retained at 8·5 per cent. Mr. Macdougald was asked if there was much adulteration of milk in Dundee. He replied that he did not think Dundee was worse in that respect than other places. He thought adulteration did take place in Dundee, especially the mixture of skim milk with sweet. The watering of milk was not so common. Asked how it

came about that so many milks were examined in Dundee, he explained that he had made milk analysis a speciality for ten years past, and had laid himself out to work for large dairy concerns, his field of operations extending as far south as Newcastle. He had evolved special apparatus to enable him to carry out analysis with great speed, maintaining at the same time a fair degree of accuracy. He submitted a pamphlet setting forth the new apparatus and method of procedure adopted in the Dundee City Laboratory. Mr. Macdougald further expressed the opinion that if the standard of fat was raised even to 3½ per cent. producers would without any hardships be able to maintain that percentage.

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#### Food Adulteration in Derbyshire.

THE annual report of the Derbyshire County Analyst (Mr. John White, F.I.C.) shows that during the year 1,015 samples were submitted to him, and of these 77 were adulterated and 45 of inferior quality. In 1894 the percentage of adulteration was 14·3, 8·3 in 1895, and 7·3 in 1896, 6·8 in 1897, 6·2 in 1898, and 7·5 in 1899. These figures show that prior to the year 1899 the percentage of adulterated articles has been steadily and continuously falling, and the same result is to be observed from the returns given for England and Wales. In this last year there has, however, been a marked rise, but still the figure is well below that obtained in the whole country for the year 1898. "I do not think this increase in the number and proportion of adulterated articles," says Mr. White, "need be regarded as of any special significance; a percentage of 7·5 of adulteration cannot be said to be by any means a high figure, indeed it is but little more than half that obtained during the first year of my appointment as public analyst for this county. This table shows the value to the public of systematic inspection and efficient control of the supply of articles of food and drugs, and the inhabitants of the county are certainly well looked after in this respect." Mr. White complains of the inadequacy of the fines imposed by the magistrates, and quotes the following remark by the President of the Local Government Board in 1896: "The only way to extinguish adulteration is by rendering it unprofitable, but it has been represented to us by many local authorities that the inadequate fines repeatedly inflicted by magistrates are an encouragement to adulteration."



### Death of the Medical Officer of Health for Halifax.

DR. AINLEY, the Medical Officer of Health for Halifax, died at Bournemouth on April 24th. The deceased passed away at the house of his son-in-law (Dr. Davidson), where he had been staying for a week or two. Dr. Ainley, who was about 65 years of age, had been Medical Officer of Health for Halifax for nearly 30 years, and during the last six years the duties had occupied the whole of his time. He was expecting shortly to go to London to give evidence in support of the Halifax Corporation Bill. He was a native of Halifax, and was originally intended for the grocery business. He served his apprenticeship, however, and then went in for the study of medicine, and after qualifying, commenced practice in Halifax.

### Maidstone and the Food and Drugs Act.

DURING the year 43 samples of food and drugs were submitted to the Public Analyst, who certified adulteration in four cases. One was of milk adulterated with 14.3 parts of added water, and the vendor was fined £1 and costs. One of butter, which on analysis was certified to be margarine, was not proceeded with. The other two were samples of whisky, one 11.34 degrees and the other 4.08 degrees below the legal limit. The magisterial proceedings in the first case were dismissed on account of the vendor being able to prove that he had the usual notice exhibited in front of the bar, although it was stated in evidence that the notice was not seen, neither was attention called to it when the purchase was made. In the latter case a penalty of £1 and costs was inflicted.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

MILK PROSECUTION.—At the Mansion House, London, Albert Markwell, general provision dealer, Minorities, pleaded guilty to a summons charging him with having sold milk containing 11 per cent. of added water. Mr. Vickery, solicitor, who appeared in support of the summons, said the defendant had explained that he sold the milk in the same condition as it was sent to him, but this was no defence under the Act; he ought to have obtained a warranty of purity from the consigner of the milk. Sir Joseph Renals asked what percentage of added water was permissible under the Act. Mr. Vickery replied that this was a question which was now before a departmental committee. There was a case at Lambeth in which a defendant milked a cow into an inspector's pail, and the milk on analysis was found to contain 10 per cent. of added water. Sir Joseph Renals: That cow had probably just been drinking. (Laughter.) Mr. Vickery said that there had not been any complaints against the defendant previously. Sir Joseph Renals, who regarded the offence as merely a technical one, imposed a fine of 5s. with costs.

On April 23rd, at Belfast, William John Caruth, Mallusk, County Antrim, was summoned for having sold adulterated milk. Mr. A. J. Lewis appeared to prosecute on behalf of the Belfast Corporation. Mr. N. Tughan was for the defence. The official report of the analyst showed that the milk had been adulterated with water to the extent of 8.82 per cent. A fine of £5 was imposed.—John Rea, of Ballynalough, Templepatrick, was summoned at the instance of the same complainant for having sold milk adulterated with 26.83 per cent. of water. Mr. William Harper appeared for the defence. Inspector David M'Master proved in this, as in the last case, the purchase of the liquid. A fine of £10 was imposed.—Inspector M'Master, under the Food and Drugs Act, summoned George Gibson, New Forge, Malone, for having sold milk in a can which did not bear the name and address of the owner. A fine of 5s. and costs was imposed.

At Bow Street, on April 24th, the Golden Grain Bread Company were summoned for selling milk at their Great Russell Street Branch from which 12 per cent. had been abstracted; also for selling skim milk from a receptacle which was not labelled. Mr. Jones supported the summons for the St. Giles's Vestry,

and Mr. Bridge defended. The facts were admitted, but in mitigation Mr. Bridge stated that, as a rule the company exhibited notices in their shops to the effect that they could not guarantee the purity of the milk, though every effort was made to sell it exactly as it came from the cow. The company did not label the vessel, as they were unaware they were selling skim milk. Mr. de Rutzen imposed a fine of £5 and costs on the first summons, and the second summons was withdrawn.—Charles Morgan, a dairyman, of 37, Prebend Street, Camden Town, was fined £15 and 2s. costs for selling milk from a can in Gower Street to which 7.7 per cent. of water had been added. A second summons charging him with not having his name and address legibly inscribed on the can was withdrawn.

At Westminster, on April 24th, Samuel Buckmaster, of 200, Ebury Street, S.W., was summoned before Mr. Sheil, under the Act of last year, for selling a tin of condensed milk which did not bear a label clearly and visibly announcing to the purchaser, "in large and legible type" that the contents were machine-skimmed. Mr. Hitchens, who prosecuted for the Vestry of St. George's, Hanover Square, said the Legislature had decided that this machine-skimmed milk—which was almost valueless as a food, over 90 per cent. of the fats having been taken away—should not be sold to the public without warning. Counsel for the defendant submitted that it was a case for a nominal penalty, the tin sold to the Vestry's inspector having a very badly impressed label. It formed part of a consignment from Holland, and to comply with the Act the labels on the lot had been impressed with an india-rubber stamp, "machine-skimmed." Some of the impressions were better than others. Mr. Sheil remarked that the inspector had a very bad one. It could not possibly be read. He did not suppose that there was an intention of fraud, but it was a case for a substantial penalty. He imposed a fine of 40s. and 23s. costs.

At Nottingham, on April 24th, Jane Jessop, 10, Lotus Street, was charged with obstructing Harry Ward, inspector of nuisances, whilst in the pursuance of his duties under the Food and Drugs Act, on the 21st ult. Mr. H. W. Day, who prosecuted, said the case was a serious one. Defendant had in the window of her house a bill, on which were printed the words, "New milk, 1½d a pint; best new." On the 21st of March Mr. Ward, inspector of nuisances, seeing this notice, asked defendant to supply him with a pint of new milk, and the quantity was supplied. When he informed the defendant that he had purchased the milk for the purpose of analysis she said it was a night old, and asked him to give it her back. On his refusing she took the jug with both hands, and succeeded in spilling all the milk. For this offence she



was liable to a penalty of £20. Evidence was given by the inspector and another witness. Defendant denied that the inspector asked her for new milk, and said that the price of the latter was advertised at 1½d. Taking into consideration the defendant's position, the magistrate imposed a fine of 30s.

**GOLDEN SYRUP PROSECUTIONS.**—At Farnham Petty Sessions, on April 5th, Thomas John Look and Augustus Look, grocers, York Town, Surrey, were summoned for having sold adulterated golden syrup. The analyst's certificate showed that the syrup which cost 2½d. per pound contained 35 per cent. of glucose. The defendants pleaded that they were ignorant of the constituents of the syrup. A fine of 20s. and costs was imposed.

At the Leeds Police Court, on April 3rd, George William Turner, grocer, 224, Kirkstall Road, Leeds, was summoned on a charge of having sold to Mr. W. B. Walker, Food Inspector, a can of golden syrup, which was certified to contain 75 per cent. of starch glucose. The syrup had been manufactured by a firm in Liverpool. The prosecution was conducted by the Deputy Town Clerk (Mr. C. C. Jolliffe), who remarked that glucose was not injurious to health, but had not so great sweetening powers as golden syrup. Had it been labelled table syrup there would have been no objection to it. The summons was dismissed on payment of costs, and the Stipendiary Magistrate pointed out to defendant that if he wished to continue selling this article he must not sell it simply as golden syrup, but as golden syrup with glucose.

At Pontypridd, on April 18th, Mr. Leyshon, grocer, was charged with selling adulterated golden syrup. Superintendent Cole stated that he purchased a 6d. tin from the defendant, and the analysis showed that it contained 34 per cent. of glucose syrup. The defendant told him at the time that he did not guarantee it was pure, that the tin was one of an old stock which he had, and that he had bought it from one of the most respectable firms in Bristol. A fine of 30s., including costs, was imposed.

**MARGARINE CHEESE PROSECUTIONS.**—At the Wolverhampton Police Court on April 11th, before the Stipendiary, Edwin Upton, salesman for Robert Bass, grocer and provision dealer, of 9, Dudley Street, was summoned for selling cheese which was not of the nature and substance demanded. There were two summonses against the defendant, both relating to the same day and the same article of food. Mr. Allwood, food and drugs inspector, prosecuted, and Mr. Dallow defended. It was agreed to take only one summons on defendant pleading guilty. Mr. Allwood said that the new Sale of Food and Drug Act (Section 5) extended the provisions of the *Margarine Act of 1887* to the *Sale of Food and Drugs Act of 1899*. On the 21st February a man named Harry Thorpe was sent to the shop of Mr. Bass to make certain purchases. He bought a pound of cheese at 6d., and a girl named Cash made a similar purchase. These samples were submitted to the public analyst, who certified that both were margarine cheese or filled cheese, and 90 per cent. of the fat contained was foreign to milk. There was no label used according to the Act, neither was the cheese supplied in proper wrappers. Mr. Dallow said the purchasers of each asked for 1lb. of 6d. cheese, and were supplied with the stuff named. The Act only came into operation on January 1st. Mr. Allwood mentioned that there were six summonses against Bass—viz. (1) selling margarine cheese, and not delivering same in a printed wrapper; (2) selling cheese not of the nature and substance demanded; (3) ditto; (4) exposing margarine cheese for sale without a label; (5) ditto; (6) selling same, and not delivering it in a printed wrapper. Mr. R. A. Willock, on behalf of Bass, said the six summonses related to the two transactions dealt with in Upton's case. Mr. Bass, he said, was under the impression that no label was required. As regarded the wrappers, such had been supplied, and were in the shop. Bass was not present at the time. The inspector was willing to accept penalties on the two sum-

monses for not having a label, and allow the others to be withdrawn on payment of costs. The Stipendiary said if he now imposed light penalties it must not be taken for granted that he meant to impose light penalties under that Act. The penalties under the Act were very stringent. Upton would be fined 40s. and costs on one summons, and pay costs on the other—total £2 12s., and Bass would be fined 40s. and costs on each of two summonses, and pay the costs on the remainder—total £7 5s. There were two further summonses against Bass—one for having an unstamped weighing instrument, the other for neglecting to produce same for inspection when requested to do so. On the application of the defendant's solicitor, these summonses were adjourned for a fortnight.

**ADULTERATED STOUT PROSECUTION.**—Alfred Edward Grey, Anerley Arms, Ridsdale Road, was charged with adulterating stout. Mr. Denniss prosecuted, and Mr. W. Hood defended. Mr. Denniss examined Mr. Davis, Supervisor Inland Revenue, who deposed to visiting the Anerley Arms on February 19th last, and taking samples of ale, stout, and porter. The stout was found to be diluted by a proportion of one ninth. The cellarman made a statement that each night for six or seven nights he had put a quart of bitter ale in it. The "waste" so put in it consisted of stout and bitter ale. Mr. Hood stated that what this cellarman did was contrary to instructions, and he had been dismissed. It was bitter ale that was added, and that was sold at the same price as the stout. The defendant did not reap the slightest benefit. Mr. Grey gave evidence to the effect that he did not authorise the cellarman to do what was done. He admitted that stout cost 8s. more a barrel than bitter ale to buy. The Bench inflicted a fine of £20 and costs, £4 3s. 6d.

**CAMPHORATED OIL PROSECUTIONS.**—At Lambeth, on April 19th, the Camberwell Vestry, acting through Mr. W. E. Groom, one of their inspectors, summoned several tradesmen for selling camphorated oil which was not of the nature, substance, and quality of the article demanded by the purchaser. Mr. G. W. Marsden, solicitor to the vestry, appeared in support of the summonses, which were taken out under the provisions of the *Adulteration Act*.—Edgar F. Munday, a chemist, of Camberwell Green, was summoned for selling camphorated oil which was found upon analysis to be deficient in camphor to the extent of 57 per cent. Mr. Marsden pointed out that in this case there was no complaint against the quality of the article beyond the fact that there was a deficiency in the amount of camphor. Mr. Francis: It should contain how much per cent. of camphor? Inspector Groom: One ounce to four ounces of olive oil. Mr. Francis: Then there was about half the amount of camphor there ought to be. Inspector Groom: Yes, sir. The defendant explained that at the time the article was made the whole of the camphor necessary was put in, but owing to the very cold weather at the time and to insufficient heating the camphor did not dissolve. Mr. Marsden remarked that it was the defendant's duty to see that the materials were properly dissolved. Mr. Francis observed that this was not one of those bad cases in which some foreign ingredient had been introduced into the article. He ordered the defendant to pay a penalty of 40s. and costs.—George Pardoe, of Lower Park Road, Peckham, was summoned for selling camphorated oil which was found upon analysis to be deficient in camphor to the extent of 95 per cent., and which had apparently been made with mineral instead of olive oil. Mr. Marsden said the defendant kept a general shop. The vestry had done their best to get hold of the wholesale man who supplied the defendant, but they had been unsuccessful. If a fine was inflicted upon the defendant he would have his remedy against the wholesale man. The defendant agreed that the inspector had taken a great deal of trouble to bring the right man to justice. Mr. Francis ordered the defendant to pay the full penalty of £20 and costs. Three other cases were adjourned in order that the vestry might proceed against the wholesale dealer.



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## Food and Sanitation.

SATURDAY, MAY, 5, 1900.

### Dietetic and Hygienic Notes.

#### The Use of Fats in Wasting Diseases.

"THE use of fats in diseases characterised by malnutrition and consequent wasting of the body," says C. W. Lillie in the *S. Louis Clinique*, "has probably been practiced for centuries. Fats were doubtless employed without any rational idea as to their real mode of action. The fact that animals having well-rounded and plump bodies exhibited the greater proportion of the fats led to the conclusion that leanness was due to the want of fat—a very just and rational conclusion, since a lack of fat constitutes one of the chief symptoms of leanness. But the lack of fat deposited in the body may not necessarily be due to a lack of fat in the food supply, but rather to an inability to store it up, either because it cannot be digested, or because being digested it is required to maintain the body heat.

The fact that the animal fats are the most powerful heat-producing substances employed as food is well known,

but it may not be so generally known that they also serve to *decrease the metabolism of proteids*, and hence, supplying to the body all the fats which it can use, lessens the waste of other tissues and the destruction of other valuable tissue-forming food.

It is a recognised fact that in all wasting diseases the fats are first exhausted, being the most readily available of any combustible in the body, and when this is gone other tissues are rapidly used up to maintain the heat of the body.

For equal weights of fat and proteids the actual amount of heat produced in combustion is as nine of the former to five of the latter; fats and cane sugar as nine to four; so that, taking the proteid bodies and the carbohydrates together, it requires two pounds of these to equal one pound of fat in heat production. From this it can be seen why it is that patients with wasting diseases fail so rapidly after the fats are exhausted. *They are then living on their organised tissue.*

It is not to be inferred from the above that the actual loss in weight becomes more rapid after the fat is consumed, as such is not the case; but the amount of heat produced is less each day after the fat is consumed.

The actual loss of weight of adipose and muscular tissue during starvation is as about four of the latter to nine of the former, being nearly in the proportion of their heat-producing powers.

These various considerations, then, point to fats as an important and rational addition to the food; and as the animal tissue-fats are the highest in the heat-making powers, it is to these we must look in our search for something to counteract the losses during wasting diseases, and as a reconstructive during convalescence.

One of the prominent symptoms in these cases, after the fever has subsided, is a sub-normal temperature. It is in these cases that fats are most strongly indicated, but it is these very cases, too, where ordinary fats cannot be given because of the condition of the stomach and bowels. Fats cannot be assimilated. If supplied in the food they pass through the alimentary canal unchanged.

It is in this class of cases where we find the greatest benefit from the use of cod-liver oil; it is also these very cases where the pure oil cannot be taken. It is not unusual to hear these patients declare they detest fats. They cannot use butter. They cannot assimilate fats, and hence they instinctively reject them.

This instinctive rejection of fats in cases of wasting diseases of whatever kind, calls upon the physician for an exercise of his knowledge of the physiology of digestion. It is for him to supply a fat in a form which will not be rejected. If there is a lack of pancreatic secretion, as is apt to be the case, then it becomes his duty to supply the fat previously digested, or at least partially digested, so that the requirements of the body may be met without too great a tax upon the alimentary canal. This may be accomplished by a judicious combination of pancreatin with emulsion of cod-liver oil; but there are some serious objections to the extemporaneous preparation of these emulsions. In the first place, there are few pharmacists who keep a pure, fresh, and palatable oil. Too much of the oil has the fishy odour so marked that it cannot be covered up by the adjuvants employed in the process of emulsification.

And second, the average pharmacist does not take the time to prepare the emulsion in a proper manner, and the result is that the oil separates and the preparation becomes unsightly and disgusting. These considerations oblige us to look for other forms of this oil, as there is no other form of fat which contains the proper constituents for tissue building. And it is owing to this fact that we find so many varieties of cod-liver oil, and cod-liver oil emulsions.

To obtain the best results with cod-liver oil, the oil must be pure and absolutely free from the slightest trace of rancidity. Its preparation, too, should be such as will



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permit of its quick and thorough assimilation. To accomplish this, something more is necessary than the mere mucilaginous suspension of the roughly subdivided oil, as in the ordinary emulsion. The oil globules require to be subdivided into minute particles and partly predigested. This can only be accomplished by means of pancreatin."

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## A Horrible Meat Case.

RARELY has a worse case of trying to dispose of bad meat for human food occurred than that brought to light at Wellington on April 23rd. The details are of a revolting character, and the fine of £20 and costs imposed upon the farmer guilty of the offence is small enough. When one of the defendant's bullocks died he cut up the carcass for the pigs. Two ferrets fed with the meat died, and the man who dressed the animal suffered from blood poisoning. Notwithstanding this, which one would have thought would have been sufficient warning, when a second bullock succumbed, Tisdale, the farmer sold the carcass to a butcher. Yet a third animal died. The carcass was sold, and portions sent to Birmingham and Wolverhampton as human food. All the animals, it was discovered, had died from anthrax. Nothing but absolute indifference to the consequences of disposing of such "food" could have prompted Tisdale to sell the carcasses. It is a gross case, and it is a matter for regret that he was allowed to escape so slightly.

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## The Composition of the Principal Fruits.

ALTHOUGH of little value as foods, fruits are widely used on account of their refreshing taste, their flavour and succulence—qualities which render them useful in relieving thirst, favouring digestion, and regulating the intestinal functions. According to the *Journal d'Hygiène*, Balland has recently analyzed a large number of different fruits and found that water is the principal component of most of them. All fruits contain, when ripe, from 72 to 92 per cent. of water; in those that are more or less dried, like raisins, prunes, nuts, etc., the proportion does not usually exceed 33 per cent., and is often below 10 per cent. in almonds, walnuts or hazel-nuts.

The nitrogenous substances representing vegetable albumin range in pulpy fruits from 0.25 per cent. in the pear to 1.45 per cent. in the banana. As a general thing, the quantity of fatty matter is proportionately less than that of nitrogenous substances, except in olives, almonds and nuts, in which the oil predominates, amounting to from 58 to 68 per cent. Mineral ashes and the inert cellulose are found in small quantities only, except in the quince and medlar. As regards the acidity, it is greatest in raspberries and currants.

Sugar and the so-called extractives represent, together with water, the greater portion of the elements that go to

make up succulent fruits. Those which contain a large quantity of sugar, such as dates, are true carbohydrate foods. The extractive matter has an action similar to that of sugar, but to a less degree, owing to the smaller co-efficient of digestibility.

We learn from the facts just given that, with a few exceptions, fruits have but little nutritive value; their juices which are more or less agreeable to us by reason of their odour, taste, or acidity, play the part of condiments rather than of foods.

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## Is Saccharin Injurious?

THIS is a question which does not at present trouble the people of this country, says the *Chemist and Druggist* (London). It is otherwise on the Continent, where sugar is so heavily taxed that substitutes for it are keenly watched by all interested, especially sugar-manufacturers and tax-gatherers. Consequently law cases arise now and then, and recently a case of exceptional interest has been reported from Moscow. A confectioner in St. Petersburg was charged with using saccharin in his sweetmeats. He did not deny it, although the Russian Government has recently prohibited its use. The judge referred the matter to Dr. Goldstein, *privat docent* in the chemical department of the St. Petersburg University, for his opinion as to whether saccharin is injurious to the human organism. The Judge read the following documents at the hearing of the case:—

1. A decision of the St. Petersburg Medical Administration, which declares saccharin to be injurious to the health.
2. A decision of the Senate, which declares saccharin to be injurious, and forbids its use in food and drink.
3. An opinion from the State Chemical Laboratory disapproving of saccharin.

Dr. Goldstein gives his opinion in the following terms:—

"Saccharin can only be used in small quantities for the preparation of food and drinks, because it is only when used in small quantities that the products have a pleasant taste. In these doses saccharin has absolutely no effect on the human organism, through which it passes completely unchanged in the form in which it enters. My opinion agrees completely with that of the Russian Society for the Protection of Public Health, and I believe that saccharin is quite uninjurious to the human organism, and therefore should be allowed to be freely used in all cases."

This statement of opinion quite convinced the judge, who found that, as no one is forbidden by Russian law to make use of anything that is unimportant and uninjurious, there was no case against the confectioner.

Inasmuch as saccharin is admitted even by its supporters to possess "preserving" properties, it must necessarily affect the digestibility of the food to which it is added, and when it is employed for the purpose of enabling glucose syrup to be sold as cane sugar syrup its use is obviously fraudulent.

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## How Margarine Fraud is Prevented Abroad.

BRITISH dairy farmers, and butter-makers in particular, will be interested in a Bill which is shortly to be introduced in the Belgian Legislature to regulate the sale of margarine. It is proposed to enact that margarine, unless declared before manufacture to be intended for export, shall be mixed with other substances in order to render it easily distinguishable from butter. The product is to be packed only in boxes of a specified form, with bright red stripes round them, and marked "Margarine" on each side. It is not to be sold in a shop which communicates with a butter shop otherwise than by the public road, and butter retailers are to be forbidden to have any margarine on their premises even for their own consumption.—*Times*



### Diet in Consumption.

A FEW years ago, says the *Medical News*, French clinicians took up the subject of feeding, over-feeding in fact, and claimed for it practically specific therapeutic properties in the treatment of consumption. Professor Fuster, of Montpellier, obtained excellent results in a number of cases by the addition to the ordinary diet of raw meat and alcohol. By the administration of from 100 to 300 grams (3 to 10 ounces) of raw meat-pulp and 100 grams (3 ounces) of cognac, he obtained such rapid and marked improvement in his first series of cases that for a time it seemed as though he had found a specific for tuberculosis.

Like so many other vaunted specifics, however, it proved a disappointment. It was demonstrated, however, that in certain cases of incipient tuberculosis, especially where patients have always been free meat-eaters and their appetite and consequently their consumption of meat have decreased, this method of treatment constitutes one of the best therapeutic measures at our command.

Later Professors Debove and Dujardin-Beaumetz, of Paris, recommended forced feeding. In cases in which the patient showed repugnance to taking much more than the usual quantities of food they suggested the use of the stomach-tube, so as not to excite the patient's aversion to the food during its deglutition, as this would be apt to interfere with its digestion. Debove considered that after a period of preliminary training as much as 500 grams (over 15 ounces) of specially prepared meat-powder might be given. This is the equivalent of about four pounds of fresh meat. Besides this, however, he gave from 200 to 400 grams (6 to 12 ounces) of powdered beans or lentils, from 8 to 10 eggs, and advised very free consumption of milk. His patients increased very rapidly in weight under this regimen, as much as twenty to forty pounds in three months, and the ordinary symptoms of tuberculosis of the lungs, the fever, the night-sweats, the coughing, and the expectoration, all improved. A far smaller number of patients than might be imagined were found, at least in hospital practice, to be incapable of assimilating these heroic quantities. Relapses, however, were rather frequent, showing that the gain in strength was not a stable one. It became evident that a more gradual putting on of weight was more effectual in preventing further progress of the disease and avoidance of relapses.

The work thus overdone has not, however, been without its effect on the modern therapeutics of consumption. It has taught a lesson that has been cherished, especially at the sanatoria. Liberal diet to tempt the appetite, tonics to whet it, and the physician's prescription as to definite amounts to be taken, constitute one of the most important legs of the therapeutic tripod, fresh air, abundant food, and regular life, upon which the modern successful treatment of consumption in sanatoria rests.

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### Dark Meats, White Meats, or Less Meat?

In an editorial under this heading the *Philadelphia Medical Journal* says:—

"The opinion has been generally prevalent, not only in the medical profession, but with the general public, that light meats are more easily digestible, that they contain less of deleterious constituents than the dark meats, and that therefore they are better suited for the nourishment of sick people in general, and for those suffering from gout, uric-acid diathesis and certain forms of kidney disease in particular. This supposition was based no doubt upon the statements which may be found in medical literature, that the dark meats contain very much more nitrogenous material and extractives than the light meats. In numbers 33, 44 and 49 of the *Berliner klinische Wochenschrift*, Offer and Rosenquist publish the results of a series of careful analyses which do not agree with those of the older analyses. They show some of the fallacies of previous investigators, and come to the conclusion that while the white meats of poultry, fish, etc., do in certain cases contain less nitrogenous and extractive materials, the average amount does not differ greatly enough in the white

and dark meats to make either preferable. In concluding their article they state that if it is desirable to limit the amount of these deleterious food constituents, we may accomplish the result much more certainly by limiting the amount of meat taken rather than by forbidding dark meats.

"It is a well-known fact that almost all the food materials contain a proportion of waste matter, and this is desirable; most foods also contain constituents, which in large quantities are deleterious, but in smaller quantities may be beneficial. The extractives of meat, among the more important of which are lactic acid, butyric acid, acetic acid, etc., are by no means harmful if taken in small quantities as is ordinarily the case, and the same is true of the nitrogenous constituents. There can be little doubt, however, that these constituents do have a bad effect upon certain people who eat large quantities of meat, and this evil is without question more prevalent in America than in almost any other part of the world. It arises from the fact that the meat supply is comparatively large with us, and the people are relatively prosperous and can afford to buy larger amounts of meat than people of most other nations. Three heavy meals in a day is nothing unusual among certain classes of people, and on nearly all of the bills of fare of leading restaurants and hotels the lists of meats is as great or greater than that of vegetables. We would not decry the use of a reasonable amount of meat, but believe that disorders arising from uric-acid diathesis would be less frequent if we were accustomed to use the meats less freely."

As regards the investigations of Offer and Rosenquist, referred to by the writer just cited, it must be borne in mind that they relate to raw meat only, and that no cognizance was taken of the changes which undoubtedly take place during the process of boiling or roasting. Senator (*Berliner klinische Wochenschrift*) takes issue with the conclusions reached by these authors, and points out their failure to take into account the non-nitrogenous extractives contained in meat, and to consider the presence in dark meat of a greater proportion of albumin which increases the amount of extractive-nitrogen. While the difference between light and dark meats is not sufficiently known, Senator is of the opinion that its existence admits of no doubt. Practical experience has abundantly demonstrated that patients affected with gout or kidney diseases do better when restricted to light meats.

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### Mice Dislike Margarine.

DR. A. W. BLYTH, Medical Officer of Health and Public Analyst for St. Marylebone, in his quarterly report, states that, under the Food and Drugs Act, 168 samples of various articles were submitted for analysis, and none were found to be adulterated. Among the samples were some of butter and margarine.

"It has been noticed," he says, "that mice are able to distinguish between margarine and butter." Mr. Rogers confirms this from observations in the Court-house laboratory. Like most old buildings, the Court-house harbours a large number of mice.

"These mice never attack the remnants of samples of margarine, but are very fond of butter. The observation is interesting, showing that rodents possess highly developed organs of taste and smell."

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### Diuretic Effects of Grapes.

DR. PECHOLIER, of Montpellier, has published a note on the diuretic effects of grapes, which would appear to confirm the diuretic action of glucose recently brought to notice. In two cases—one a patient with cardiac disease and the other the subject of hepatic cirrhosis with ascites—a "grape cure" was undertaken with the best results. In the former patient, notably, five pounds of grapes were daily ingested in three parts, and the diuresis produced was much more considerable than with milk, digitalis, or iodide potassium. This effect can only be attributed to the sugar of the juice of the grape, the other parts of the fruit having been rejected,



## Cold Storage Notes.

### Cold Storage of Fruit.

THE report of the County Superintendent of Horticulture (Mr. W. P. Wright) on the Kent and Surrey County Council experiments in the preservation of fruit by cold storage at the works of Messrs. J. and E. Hall, Dartford, has been issued. It states:—"Following on the successful results achieved with small quantities of fruit in 1898, it was decided to experiment with larger quantities in 1899. This decision was come to because it was considered desirable to ascertain with exactitude to what extent cold storage could be made of real commercial value. As might naturally be expected, the following difficulty presented itself. It is one thing for a grower to send a small quantity of fruit for trial which he does not miss, but quite another to get him to send a larger bulk which represents a real monetary value. The difficulty was anticipated to a certain extent; nevertheless it was disappointing that some outside growers did not give the committee the benefit of their co-operation. It may here be noted that in no quarter has so little interest been evinced in the cold storage experiments as in the home districts. Colonists, shipping agents, and representatives of other Governments have been keen enough, and it is a remarkable fact that nine-tenths of the enquiries which have been received as a result of the publication of the committee's reports have come from what in this connection may be termed outside sources. I am inclined to suggest that, if Messrs. Hall do not mind continuing their public-spirited help for another season, invitations be extended to a number of experts, such as growers and market agents, to form a special committee acting with the county council sub-committee. This might secure their personal interest and co-operation. The time for it would be May. As to the fruit stored in 1899, an excellent consignment of black currants came from Mr. W. Chambers, but, owing to a misunderstanding about sending it to market, the ultimate test, that of actually exchanging the fruit for money, did not mature. We had the qualified satisfaction of proving on a large scale what we had proved the year previously on a small one—namely, that the fruit will keep for some time in good condition while waiting for a favourable market. As regards the plums there was no such *contretemps*, and it is gratifying to say that the result was a great success. I append a letter which I received from Mr. W. W. Berry on October 6th, 1899:—"I have seen my 40 halves of plums to-day at the market

after their having been in the cold store three or four weeks, and find them in good condition, and realising double the price they were worth when put into the chamber. In every way the experiment is a complete success." The variety stored by Mr. Berry was Cox's Emperor. Mr. R. Mercer sent us a capital lot of Victorias. The price when stored was 4s. per half, and the realised when sold 9s. per half. The net result, therefore, is most encouraging, and justifies active support by growers in the future."

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### New Uses for Refrigerating Machinery.

THE possibility of attaining a low temperature by means of expanding air has created a vast trade with the Antipodes in frozen meat and other food-stuffs; the refrigerating system of meat-storage on shipboard and on land may, indeed, be regarded as one of the most notable triumphs of the closing century. A new use for cold-storage is indicated in a letter we have received from a correspondent, who states that a London furrier doing a large trade is keeping his goods at a temperature below the freezing-point, with a view to prevent the ravages of moths. It may, therefore, be worth the attention of the proprietors of cold-storage chambers to devote space for accommodation of furs as well as flesh. It is interesting to learn that plans have been prepared by Rear-Admiral O'Neil, of the U.S. Navy, for the provision on war-ships of refrigerating machinery for keeping the magazines cool, with a view to the prevention of explosion.

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### The Frozen Meat Trade.

MANY persons will be glad to know that there is every likelihood of frozen meat continuing at its present cheap prices, owing to the keen competition which is still in progress between the Australian and American exporters. The fight is being carried on with unabated vigour, and it is asserted that the firms in the United States have just agreed to lose £200,000 a month in a last attempt to spoil the Colonial market. There is little doubt that the attempt will fail, for Australian mutton and "Canterbury" lamb have come to stay. The American housewife is, meanwhile, suffering in pocket, because prices have been raised in the States to make up for the "undercutting" in this country.

## Official Reports and Notes.

### Perth County Council and Weights and Measures.

MR. WILLIAM SCOTT, Inspector of Weights and Measures, reported that during the year ended March 31st he had adjusted and stamped 23,462 weights and 3,357 measures. He had also verified and stamped 1,767 weighing instruments, and the denominations were marked on 53 weights and 58 measures of capacity. In carrying out the regulations he made surprise visits to 720 places of business, and examined 5,533 weights, 1,068 measures, and 1,218 weighing instruments. Twelve persons or firms had been convicted of contravention of the Acts. Under the powers conferred by the Burgh Police Act of 1892, the inspector visited sale shops on 72 occasions, and required articles for sale to be weighed in his presence. Of the large number of articles so verified, bread was the only one found irregular, and a warning was given in a few cases as to the necessity of exercising greater caution in

the weighing of dough. The income for the year to 31st March was £220 17s. 10d., and the expenditure £347 17s. 3d. Forneith, Clunie, is to be included in the list of places which the inspector is to visit once a year for stamping and adjusting weights and measures, while Aberfeldy is to be visited once a year instead of twice as formerly. The Committee having considered the question of the apparent hardship of charging fees for weights presented for reverification and found correct, agreed to recommend the County Council to pass a regulation or resolution to the effect that in future no fees should be charged for weights so presented and found correct. This relief would entail some loss of income, but would be of special benefit to shopkeepers and traders whose business was limited and who needed the relief. The relief was to be confined to weights, and would not apply to measures or weighing instruments,



### Nottinghamshire Policemen and Food and Drug Samples.

AN important communication was received from the Board of Agriculture, stating that one of their inspectors had submitted to the Board a report relating to the administration of the Sale of Food and Drugs Acts, 1875 to 1899. The Board forwarded to the Council the following extract from the inspector's report:—

"Samples are taken in the district of the Rutland County Council by the superior officers of the police. I gather that they purchase the samples personally, and that it is not the practice to employ agents to purchase the samples for them. The police officers must be well known to many of the traders in the county, and in any case it would be obvious to any trader that persons of the class and standing of superintendents and inspectors of police might be purchasing on behalf of the local authority any article asked for by them. So long as samples are purchased by persons who are known or suspected by the shopman to be buying for the purpose of submitting what is purchased to the public analyst it is not likely that many cases of adulteration will be detected, and no satisfactory estimate can be formed as to the amount of adulteration carried on in the district. Only about twenty samples a year are taken in the district of this local authority.

The Board of Trade submitted that it was very desirable that more samples should be taken in this district, and that agents should be employed in purchasing the samples.

Mr. George H. Finch, M.P., announced that the officers under the Acts had now received instructions to employ somebody who was not so well known to the tradespeople as the police in purchasing articles for analysis.

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### Adulteration in Essex.

THE Essex County Council met on April 3rd, Mr. T. A. Pooley, county analyst, reported that during the past quarter two samples of butter out of eighty-nine, one of arrowroot out of thirteen, and one of mustard out of five were adulterated. Except in one or two of the metropolitan districts of the county, adulteration showed a steady decline. The butter adulteration consisted of the substitution of margarine for the genuine article. The case of arrowroot sophistication was the substitution of borax, and was probably due to a mistake of the vendor. The mustard contained a slight admixture of wheaten flour.

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### Peterborough Town Council and Weights and Measures.

PETERBOROUGH County Council have decided that under the Weights and Measures Act, 1899, no charge be made by that authority for the verification of weights and measures when found correct.

### East Riding County Council and the Food and Drugs Act.

ALDERMAN BURTON, in moving the confirmation of the minutes of the General Purposes Committee, drew attention to a resolution to the effect that the Chief Constable be authorised to employ such agents as he might consider necessary for the purpose of taking samples for the purposes of the administration of the Food and Drugs Act. He said it was done because the police were well known to the tradesmen, and they would provide samples for them when they came.

Mr. Smith contended that the police did their duty in a satisfactory manner, and he thought that the Council would act wisely not to appoint agents or spies. He contended that the tradesmen were anxious to carry out the provisions of the Act, and if they appointed fifty inspectors the result would be practically the same as it was to-day.

Mr. Brigham contended that the Council had no power to authorise the Chief Constable to appoint agents.

Alderman Burton said what was suggested was that the constables of one division should be used in another in plain clothes.

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### Bath Town Council and Analyst's Charges.

MR. BUSH suggested the desirability of reducing charges made to tradesmen in the city who desired to have some of their goods analysed. If this were done a larger number of samples would be submitted by tradesmen.

Alderman Rubie did not see that they could interfere with the City Analyst's charges.

The report, after some discussion as to the necessity of providing hospital accommodation for erysipelas cases, was carried *nem. con.*

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### A Lancashire Food and Drugs Act Inspector.

THE Finance Committee of the Lancashire County Council, upon the request of the Public Health Committee, recommend that the chief constable be requested to appoint Mr. William Parkinson as an additional constable with the rank, pay, and allowances of an inspector, such appointment to date from the 1st April, 1900, and that he be appointed an additional inspector under "The Sale of Food and Drugs Acts," and that his salary, allowances, and expenses be paid out of the County Fund.

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### Appointment of Inspector of Weights and Measures at Greenock.

MR. DAVID ELDER GORDON has been appointed inspector of weights and measures for the burgh. He was also appointed inspector to carry out the provisions of the Sale of Food and Drugs Acts, and the Margarine Acts, in so far as the same require to be carried out by the inspector appointed by the Local Authority. The salary for the combined offices is £150 per annum.

## Weights and Measures Notes.

### Inspection at Cardiff.

SOME months ago a deputation of the Cardiff Grocers' and Provision Dealers' Association suggested to the Markets Committee that weights, etc., should be tested annually free of charge, that each district should have an allotted time in the year in which to send in their scales, etc., that the police stations and other convenient places in the district should be used in the districts, and that scales bought in other towns and accepted by their authorities should not be refused at Cardiff. The inspector, in a lengthy report, was averse to all these suggestions.

The committee decided to adopt the recommendations of their inspector, a decision which the Council referred back to the committee.

On Wednesday the committee decided that, having again considered the report of their inspector, and the reply of the Grocers' Association, and the further reply of the inspectors, to advise the Council to adopt their recommendations. In his reply to the observations of the Grocers' Association, Mr. Major said he strongly adhered to the recommendations made in his report.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**BUTTER AND MARGARINE PROSECUTIONS.**—On April 24th, at Tredegar, William Llewellyn, grocer, was charged by Inspector T. E. Serjent, of the Monmouthshire County Council, with selling margarine for butter, and also for exposing margarine for sale unlabelled. Mr. Fred. Davies, solicitor, conducted the prosecution. A lad named George Pobert said that acting upon instructions from Mr. Serjent he went to Mr. Llewellyn's shop on Saturday, March 17th, and asked for 1lb. of sugar and  $\frac{1}{2}$ lb. of ten-penny butter. Mr. Llewellyn served him. He then asked how much per lb. was the next lot. Mr. Llewellyn said 1s. He said I will take  $\frac{1}{2}$ lb. of that. It was then made up into a parcel and he took it outside the shop and gave it to Mr. Serjent. Mr. Serjent then went into the shop with the lad Pobert and told Mr. Llewellyn that the butter was purchased to be analysed by the public analyst. Mr. Llewellyn then said it was "Margarine." Upon opening the parcel it was found that each lot was wrapped in a "Margarine" wrapper. Upon the top of the one parcel of what appeared to be butter was a label "Splendid" and on the other "Delicious." Right behind the parcels and quite out of sight were two labels "Margarine." The Inspector stated that he was in the shop in the morning and saw how the labels were placed, and in consequence of which he sent the lad to the shop in the evening. He had previously cautioned the defendant for not properly labelling his margarine. The Bench adjourned the court to visit the shop and see for themselves the position of things, and after doing so said they were of opinion that Mr. Llewellyn was guilty on both charges and would be fined £5 and costs on each, £12 14s. in all.

At Stafford, Messrs. Daniel Melia and Co., Limited, trading as grocers and butter merchants, at Gaolgate Street, Stafford, and at other towns in the country, were charged with exposing for sale margarine which had not been duly labelled. Mr. E. W. H. Knight, inspector under the Food and Drugs Act, appeared to prosecute, and Mr. P. Burke defended. Mr. Knight said the offence was committed under Section 6 of the Margarine Act, 1887, and there was no dispute as to the facts. The issue was simply whether every parcel of margarine had to be labelled, "each label having letters  $1\frac{1}{2}$  inches square, so exposed and in such manner as to be clearly visible to the purchaser." The evidence of William Giffard, assistant inspector, showed that on March 10th he went to the defendants' shop at Stafford, and purchased samples of butter and margarine. He noticed two boxes containing margarine, one placed on the other. The top box contained 23 pound parcels and the bottom one 40 half-pounds. There was a tin label on the top box, but none on the bottom box, although the figure "6d." was visible. The box underneath was placed on an earthenware pan which bore the word "margarine" in printed letters, but these were not visible as tins, etc., were placed in front. When asked to remove the top box the assistant did so, and thus took away the only label which was on the two boxes. Witness made a purchase from the bottom box and told the manager that he required the sample for analysis. In cross-examination, witness admitted that the sample was placed in two wrappers bearing the word margarine. Mr. Wooldridge said that having some knowledge of matters affecting trade, he should say that the tin label was placed so that it might hide the division in the two boxes. Mr. Knight said it was an obligation on the part of every dealer to attach a label to every parcel of margarine exposed for sale. Mr. Wooldridge said he should consider each box a parcel, and that was how tradesmen would interpret the Act generally. Mr. Knight said the conclusion he had

come to was that each pound of margarine was a parcel. Mr. Burke: That is what I dispute entirely. I say that each pound is a package. Mr. Knight said that if a dealer chose to display margarine for sale in pound parcels he must place upon each particular pound a label as required by the statute. In this case the margarine was made up in similar shape to that adopted by farmers in Stafford market. In reply to the Bench, the witness Giffard said the assistant told him it was margarine when he made the purchase. Witness told the assistant he did not require the additional wrapper on which was printed margarine. Mr. Wooldridge said he thought it would be difficult to place the statutory label on very small parcels of margarine. Mr. Knight: The law meant it to be difficult (laughter). Samuel Bennison, assistant inspector, gave corroborative evidence. Mr. Bucke contended that the term "parcel" applied to each box, and that if the boxes were labelled the Act was complied with. He submitted that having regard to the number of labels which were supplied to purchasers of margarine there was no possibility of imposition. Evidence for the defence was given by William Taylor, manager, and Gilbert Marshall, assistant at the defendants' shop. Both stated that they had special instructions as to labelling margarine, and these were carried out. Taylor said he pointed out to the assistant inspector that every packet of margarine in the boxes was distinctly marked, and he refused to look at them, saying he was concerned only with the packet he had bought and not with the boxes. Mr. Wooldridge, after a long consultation with his brother magistrate, said they could not agree upon a decision, and the case would have to be tried before another Bench. There was no dishonest motive attributed to Messrs. Melia, and it was not alleged that they had been trying to mislead or deceive the public. It was agreed to adjourn the case until May 24th.

**MILK PROSECUTIONS.**—At Penzance, on April 23rd, John Phillips Hall, milk seller, of Regent Square, was summoned for selling watered milk. Mr. N. C. Whear, inspector under the sale of Food and Drugs Act, said he visited the defendant's dairy and obtained a pint and a half of milk, which was divided into three parts in the usual way. One of these were sent to the borough analyst, who certified that the sample contained 83.2 of milk and 16.8 per cent. of added water. It only contained 7.07 per cent. of non-fatty solids, the normal proportion being 8.5 per cent. By Mr. G. L. Bodilly (who defended): He asked for new milk. He knew that milk to which had been added skimmed milk would not give as large a proportion of fatty solids as new. The proportion of water even in new milk varied very largely—he should say 87 of water and 13 of solids was fairly good milk. For the defence Mr. Bodilly pointed out that in his evidence in chief the inspector had stated that he asked for "milk" and he (Mr. Bodilly) was prepared to prove that what he was supplied with was milk, but it was not wholly new milk, and was not intended to be. It was scalded to keep it over night, the milk taken off next morning and added to the new milk, and sold for less than was paid for new or pure milk, and to supply a man who asked for "milk" with milk thus skimmed was no offence against the Act. If the defendant had done what was wise—and what he and other milk-sellers in Penzance intended to do for the future—he would have got a written warranty from the farmers who supplied the milk that it was pure, and then he would have an absolute defence to any proceedings against him. The defendant said personally he knew nothing about the sale of the milk until afterwards. The Bench inflicted a fine of £5 and costs. There was a similar charge against him on another date, to which he pleaded guilty. Mr. Borlase asked for a small penalty, and the defendant was fined the costs.

At Heywood, on April 24th, Edwin Fitton, Sandpits Farm, Hopwood, was summoned for selling adulterated



milk. Mr. Wilson appeared for the county authorities, and said he was instructed to ask that bench and other benches to deal severely with that class of cases. They had an idea that a very great deal of milk adulteration was going on, and that the public was being more or less defrauded. The analyst's certificate showed that upwards of six parts of water had been added to every 100 parts of the poorest milk, which had also been deprived of part of its cream. Mr. Bertwistle, for the defendant, pleaded guilty, but said that on this day the defendant and his wife were both ill in bed. A son of the defendants had an accident with the milk. He lost about eight quarts of milk, and without saying a word to anybody he quietly added eight quarts of water. A fine of £3 and costs was imposed.—In a second case Richard Aspinall, of Mercers Farm, Hopwood, was summoned, and in his case certificate stated that the milk had been deprived of part of its cream and had also been slightly watered. The defence put forward by Mr. Bertwistle was that in making up the milk a can of skimmed milk had been placed by accident in the new milk, and a can of new milk into the skimmed milk. The Bench imposed a fine of £1 and costs in this case.

At Newark, on April 26th, William Turfit, milkseller, Balderton, was charged with selling milk at Newark on April 11th, not of the nature and substance demanded by the purchaser. Mr. George Horspool, inspector to the Newark Corporation, spoke to purchasing a sample of milk off the defendant's wife. It was analysed by the Borough Analyst, and was certified to be 12 per cent. deficient in fat natural to milk, and to contain added water. Fined 5s. and costs.

At Stratford, on April 28th, Albert Chaplin, of 88, Seymour Road, East Ham, was summoned for selling milk adulterated with 16 per cent. of added water. Mr. C. E. Wilson, clerk to the East Ham District Council, prosecuted. The defendant pleaded guilty, and said he had only recently started in business. The Bench said they would take this into account, but the defendant must remember that if his customers wanted water in their milk they would put it in themselves. He must pay 40s. and 18s. costs.—James Carter, of 53, Lansdowne Road, East Ham, was summoned for a similar offence, the adulteration being 6 per cent. Mr. Ricketts, for the defence, said the milk was sold as the defendant bought it. The added water was a small percentage, and the pooriness might be attributed to the season of the year. He suggested in view of this that it would not be safe for the Bench to convict. The defendant gave evidence, and said he bought the milk from a firm who would never give a warranty. He applied that the case be adjourned for his sample to be analysed at Somerset House, and the Bench adjourned the summons.

A case of considerable interest was brought to light at the Selby Petty Sessions on April 30th, when Charles Horsfield, a signalman in the employ of the N. E. Railway Company at Selby, was charged under the Food and Drugs Act, with selling milk to the prejudice of the purchaser, Mr. W. H. Wilson, inspector to the West Riding County Council. The defendant denied the charge. Mr. D. Wardle, from the West Riding solicitor's office, Wakefield, appeared to prosecute, and Mr. J. K. Burton, Selby, represented the defendant. The evidence for the prosecution showed that on the 5th March last Inspector Wilson purchased from the defendant's wife a pint of new milk, for which he paid 1½d. He told the woman that he required it for analysis, and that it would be analysed by the Public Analyst. The certificate received showed that the milk had been deprived of its natural fat by skimming, or similar treatment—that the sample had had fat extracted from it to the extent of one-fifth, and that it was adulterated with water to the extent of about 14 per cent., which was a very large proportion. Cross-examined by Mr. Burton, Mr. Wilson admitted that the sample was not weighed. Mr. Burton, in a lengthy legal argument, contended that the procedure was bad—that Charles Horsfield was not the person to whom the cows belonged, or who had anything at all to do with the business, which was carried on

by his wife and son; that the person who should have been summoned was the one who performed the physical act; that the certificate was not a proper one, and was in consequence misleading to the Bench, and did not justify them in acting upon it. At this juncture the Bench intimated that they had decided to dismiss the case. The Clerk (Capt. Parker): Upon what grounds? The Chairman (Mr. William Liversidge): In the first place we consider the wrong party has been summoned. Mr. Wardle: You have no evidence on that point. The Chairman: And the certificate does not contain the weight. Mr. Wardle: And I will add that you have given me no opportunity of contradicting the remarks in regard to the analysis. The Clerk: The Bench will understand that you have given the decision without my sanction. Notice of appeal was given.

At Barnsley, on April 30th, Elijah Simson, farmer, of Barugh, was charged at the instance of Mr. J. H. Bundy, inspector to the West Riding County Council, with selling adulterated milk at Mapplewell on the 21st ult. Mr. J. Raley defended. The public analyst certified that there were 89 parts of pure milk and 11 parts of added water. The Bench imposed a fine of 20s. and costs.

At the Gateshead Borough Police Court, on April 30th, Eleanor Cook was fined 10s. and costs for having sold adulterated milk. Inspector Joures said the analyst had found that 21.5 per cent. of animal fat had been abstracted. It was stated on behalf of the defendant that the milk had not been interfered with, and that it was sold as received from the farmer.

#### CLAIM FOR ADULTERATED MILK.

At Boston County Court, Annie Fossitt, widow, Kirton, brought an action against Thomas Rhodes, farmer, to recover £14 19s. 7d. damages, which she alleged she had sustained by reason of the defendant's breach of contract to supply her with pure milk. Mr. W. H. Gane was for the plaintiff, and Mr. H. Smith for the defendant. Plaintiff retailed milk, which she purchased from the defendant. She began to deal with the defendant in August, and paid 1d. per pint for the milk, which she retailed at 1½d. per pint. In November she discovered that the milk was adulterated, and gave information to the police, and, acting on their advice, she continued to buy milk from the defendant until February, when she was convicted and fined £10 and costs. She did not sell the milk, but gave it to the pigs. She paid the defendant £9 9s. 1d., and estimated the loss of profit at £4 19s. 6½d., and for this amount she brought her action. Mr. Smith submitted that the plaintiff had taken a wrong course. When she found the milk was not pure she should have returned it to the defendant. His Honour did not see how she could recover for the whole of the milk supplied during the three months, seeing that she bought it with her eyes open and knew what she was buying. For the purposes of the police no doubt she took a proper course, but it was not the course to be pursued with regard to civil action. His Honour reserved judgment.

COCOA PROSECUTION.—At Langport, A. Challis, grocer, of Langport, was summoned for selling P. C. Eno 1-lb. of loose cocoa to the prejudice of the purchaser, being mixed with 30 per cent. of sugar and starch. Mr. Cross, of Bristol, appeared for the defence. P. C. Eno said on the 23rd of February he purchased from the shop of Mr. Challis 1-lb. of loose cocoa, Mr. Challis's son serving him. He paid 5d. for the cocoa. He afterwards told him the article was going to be analysed, and it would be divided into three parts. Mr. Challis then divided it, and when he opened it (from a pound packet) he showed witness a label. He (witness) called attention to the label, and Mr. Challis said he did not know if the keeping of the label inside the packet was an offence or not. The label stated it was not pure cocoa. He then placed a similar label in each packet on division, and witness sealed it in his presence. He gave one sample to Mr. Challis, and handed the others to the Superintendent the next morning. By Superintendent White: He could identify the packages again, as he



initialled them. By Mr. Cross: He could not say whether 5d. was a reasonable price for a pound of loose cocoa. He asked for loose cocoa according to instructions. He did not know anything about the price of cocoa. Superintendent White said on the 24th February he received from the last witness two packets of cocoa, marked "H.E."—Henry Eno. On the same day witness took them to the analyst at Taunton, and on the 2nd March received the analysis. This was handed to the Bench, and stated that it was adulterated with 30 per cent. of sugar and starch. Mr. Cross, in defence, quoted the section of the Act under which the prosecution was taken, and said the ordinary way of business was to place a label outside the packet. He submitted that his client had taken a good form of notice in placing the label inside the packet, and anyone opening the cocoa and seeing it would read. He had acted in a singularly efficient way. According to the Act it stated that a quantity of cocoa could be sold "on" or "with" a label, and by the case of *Jones v. Jones*, decided in the Queen's Bench, it was found that a label being covered was not an offence under the Act. He submitted his client had complied with the Act. After consultation the Bench said on the face of that they could not possibly convict in that case, and it would be dismissed. Mr. Cross applied for costs, and said a letter was written to the police stating what the defence would be. The Superintendent remarked that this letter was received after the proceedings had been taken. This application was disallowed.

**GOLDEN SYRUP PROSECUTION.**—At Clerkenwell, on April 25th, Charles Riley, 41, Hampden Road, Upper Holloway, N., was summoned for having sold "golden syrup" containing 90 per cent. of "starch glucose syrup." Warrant-officer Capon proved the service of the summons, and as the defendant did not appear in answer to it, Mr. Bros said he would hear the case in his absence. Defendant had been given the opportunity to appear, and had evidently gone away to evade the summons. Inspector Cook proved purchasing half-a-pound of "golden syrup." He was served by the defendant, and paid three half-pence for it. The public analyst certified that it contained 90 per cent. of "starch glucose syrup." Dr. Seed, the analyst, said golden syrup should be derived from pure sugar. This sample was 90 per cent. of starch, and had not the same sweet qualities as the genuine article. Mr. Bros imposed a fine of 40s., with 12s. 6d. costs.

**VINEGAR PROSECUTION.**—At Marlborough Street, on April 26th, Messrs. R. and N. Pott, vinegar brewers, 68, Sumner Street, Southwark, appeared before Mr. Fenwick on an adjourned summons charging them with selling to Messrs. Bodilly and Co., grocers, 19, Air Street, Piccadilly, W., vinegar with a false warranty. Mr. Leese prosecuted for the vestry of St. James's, Westminster, and Mr. Bodkin appeared for the defence. Dr. James Edmunds, public analyst, analysed a sample of the vinegar, and gave a certificate stating that it contained 0.134 per cent. of added sulphuric acid. For the defence it was urged that the vinegar contained absolutely no sulphuric acid, but merely sulphate of lime, or gypsum, which was a neutral substance added to bring up the water to a standard of hardness, which was better than ordinary drinking water for the brewing of vinegar, and that the vinegar was pure and properly warranted pure and free from added acid. The firm had been established for about 300 years and for some time past had contracted with the Admiralty to supply vinegar, and no complaints had been received. The summons had been adjourned so that the vinegar might be analysed by the authorities at Somerset House. On the resumption of the case, a certificate was handed in from Somerset House stating that the vinegar contained 0.133 per cent. of "chemically combined sulphuric acid." Mr. Fenwick, in deciding the case, said that the prosecution urged that sulphuric acid had been added to the vinegar, inasmuch as the defendants had added sulphate of lime, and on the analysis the presence of sulphuric acid was disclosed in combination

with lime. Sulphate of lime had undoubtedly been added, but as he understood the expert witnesses called for the defence, a substance in chemical combination with another was not the sum of its constituents, but a totally different substance. They said that adding sulphate of lime was not adding sulphuric acid, but quite another material; that was to say, if A and B were combined they would form C, quite a different substance from A or B. He must come to the conclusion that the prosecution had failed to prove that the defendants had been guilty of a breach of their warranty, and the summons would therefore be dismissed. The prosecution would have to pay a guinea, the fee due to the authorities at Somerset House for analysing the vinegar.

**PUTRID DELICACIES.**—Dr. T. Taylor, Medical Officer of Health for Mile End, and Mr. Thwaites, Sanitary Inspector, applied to Mr. Mead at Thames for an order to destroy a number of tins of preserved peaches, apricots, and fruit pulp, which had been seized at a jam factory in Old Church Road, Stepney, and which were intended to be prepared for sale. The tins were brought to the Court in a van, and Mr. Mead having inspected, made an order to destroy the contents.

**BAKING POWDER PROSECUTION.**—At Wolverhampton, Ann Roberts, a small shopkeeper, of Graiseley Street, was charged with selling adulterated baking powder. An inspector bought a packet of "Surprise" baking powder from the defendant, and on analysis it was found to be adulterated with 25 per cent. of alum. This was not injurious, but undesirable. The defendant was fined 5s. and costs.

**WEIGHTS AND MEASURES PROSECUTIONS.**—At Wonford Petty Sessions, James Rowe was charged with delivering coal at Exminster on March 26th without carrying a correct weighing instrument. Mr. Ford (Messrs. Ford, Harris, and Ford), for the defendant, admitted the offence. Fined 1s. and costs (5s. 6d.).—Jane Webber, a small shopkeeper, of Exminster, was fined 5s. and costs (5s. 6d.) for having an unjust weighing machine in her possession on March 26th.—George Hurdle, of Topsham, was charged with delivering 5 cwt. of coal at Exminster without then and there delivering a ticket or note before any part of such coal was unloaded. Mr. Ford, for the defence, admitted the offence, and said defendant had been provided with tickets, but had forgotten to take them. Fined the costs only, 10s.—William Seward, coal hawker, of Exeter, was charged with selling coal from a vehicle of less quantity than represented at Alphington on April 2nd, and further with delivering coal not exceeding 2 cwt. without carrying a correct weighing instrument. For the first offence defendant was fined 10s. and costs (10s. 6d.), or 14 days, and for the second offence 10s. and 5s. 6d. costs, or 14 days.

At Cheltenham, James Biddle, of the Swindon Arms, was summoned in respect of an unjust scale beam, on the 19th April. Inspector Taylor said he found defendant's wife weighing tobacco by an old scale, which gave various results—sometimes in favour and sometimes against the purchaser. Since then defendant had procured new scales. The Bench fined defendant 6s. and costs, and ordered the forfeiture of the old scales.—Walter Henry Dodwell, coal dealer, of 21a, Grosvenor Terrace, was also summoned at the instance of Inspector Taylor for having in his possession for use for trading purposes an unjust weighing machine and a weight, on the 17th April. The Inspector said he had on three occasions rejected the machine, which was unjust to the amount of 7oz. in half a hundredweight, and that a 4-lb. weight was unstamped and 2drs. light. Defendant called George Osmond, scale repairer, who said he cleaned the machine on Good Friday, and tested it with stones, and "for any man to say it was unjust to the amount of 7oz. is nonsense." The Bench told defendant he might as well have sent the scales to a grocer as to his witness, and fined him £1 and 9s. costs. The weight was forfeited.



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## Food and Sanitation.

SATURDAY, MAY 12, 1900.

### Dietetic and Hygienic Notes.

#### The Physiology of Absorption.

DOUGLAS, in the last of a series of "Lecture to Nurses," dealing with "Dietetics and the Physiology of Absorption," which were published in the *Hospital Nursing Mirror*, gives the following instructive summary of the process of absorption in the gastro-intestinal tract:

"To all intents and purposes, digestion is completed after the food has been acted on by the secretions of the pancreas and the liver; the only further change that occurs is the conversion of cane-sugar and maltose into glucose or grape sugar by the action of the ferment invertin in the succus entericus of the small intestine. The object aimed at by all these chemical and physical processes is to bring the food into a state for the absorption into the system. Proteids have been transformed into albumoses and peptones—although native proteids, as they are called, can also be absorbed as such; starch, cane-sugar, and milk-sugar have all eventually been converted into

glucose; fats have been partly emulsified, partly broken up (saponified); water and salts require no special change. In the mouth and gullet absorption is practically nil; in the stomach there is but little, if any, absorption of water, but a certain amount of sugar, salts, and peptones find their way into the capillaries of the gastric mucous membrane, and are carried off *via* the gastric and portal veins to the liver, while the bulk of absorption takes place in the small intestine, a little also being accomplished in this way in the large bowel.

"Albumoses and peptones, salt, sugar, and water pass through the intestinal mucosa direct into the blood-capillaries, and are conveyed by the portal vein to the liver, the sugar being stored up there as glycogen or animal starch. Curiously enough, the albumoses and peptones are all changed during the process of absorption back again into the native albumin and globulins in which they originally existed, and it is in this form that they are found in the blood-stream. Fats are not absorbed directly into the blood, but into the lymphatic system by means of small tributaries of the latter named lacteals, with which the intestine is richly provided. It is by means of the delicate little processes called villi that the fat droplets gain access to the lacteals. Each villus is a tiny club-shaped process, containing in its interior a lacteal offshoot from the lymphatic system. This little vessel is surrounded by a space containing free amoeboid lymph-cells, while the outer lining of the villus is made up of columnar epithelium. In the absorption of fat the fine oil-globules pass through, not between, the columnar epithelial cells. It is probable that they are then seized upon by the wandering lymph-corpuscles and carried to the lacteal, and that they are then discharged into its interior. These lacteals open into larger lymphatic trunks, which eventually combine to pour their white, milky contents (now called chyle) into the thoracic duct. This vessel passes upward to the root of the neck, where it opens into the jugular vein on the left side, and in this way allows the fat to reach the general circulation.

"That part of the food which either cannot be or is not digested, along with various decomposition-products, mucus, bacteria, bilesalts, etc., goes to form the feces, which must be cast off from the body from time to time."

\* \* \* \*

#### Chemical Adulteration of Milk.

ACCORDING to a statement in the *Revue Scientifique*, the chemical adulteration of milk is one of the hygienic factors now to be dealt with. It seems that M. Denigès, of Bordeaux, having obtained possession of three samples of yellow powder used by certain milkmen of Bordeaux to preserve their milk, made a chemical analysis of it. This analysis shewed that two of the powders were composed wholly of neutral chromate of potash, that the third was a mixture of 1 part bichromate of potash and 2 parts neutral chromate, and that the suspected milk had been adulterated with the last substance in the proportion of 0.30 gramme to the liter, say 5 grains to the quart. The alkaline chromates are, in fact, powerful antiseptics, capable, even in small quantities, of retarding lactic fermentation very noticeably, if not of stopping it entirely. But because of the deleterious action of these salts on the organism, the *Revue* calls emphatically for their complete exclusion from food substances, and particularly from milk, of which so many young children drink relatively large quantities.

\* \* \* \*

#### Poisoned by Tinned Sardines.

A PARIS correspondent says:—M. Josse, the examining magistrate, is investigating some alarming cases of poisoning in the Rue Demours caused by eating tinned sardines. In one family the father died in great agony, the other members narrowly escaping the same fate. It was discovered that the tins had been in stock for two years.



## Cold Storage Notes.

### Refrigerating Machinery.

At the monthly meeting of the Ipswich Engineering Society, Mr. E. Bruce Ball read a paper on "Refrigeration and the Mechanical Production of Cold." Dealing first of all with the general principles governing the subject, Mr. Ball said that by a refrigerating machine is meant a machine which will carry heat from a cold to a hotter body. This could only be done by the expenditure of mechanical work, and the fundamental law upon which all calculations are based is "that heat and work are mutually convertible, and that Joule's equivalent is the rate of exchange." In these principles there would be recognised both the first and second laws of thermo-dynamics. When a gas is adiabatically compressed in a cylinder, the mechanical work expended upon it appears in the form of heat, and if, after compression, this heat is abstracted and the gas allowed to expand adiabatically to its original pressure, a greatly reduced temperature will result. The cooled gas can then be brought into contact with the mass which requires cooling, and if the latter is of a higher temperature, the gas can then extract heat until its original volume and temperature are gained, the cycle being repeated till the body is reduced to the temperature of the gas after expansion. The relation between temperature, pressure, and volume was pointed out; an exhaustive reference was made to the difficulty formerly attending the use of dry-air machines, arising from the fact that the working substance is not actually dry air; and a description was given of the carbonic-acid gas and other systems. Dealing more particularly with this part of the subject, Mr. Ball showed that the cold air system is specially applicable to the preservation of meat and other perishable goods, because, owing to the slight humidity, the meat preserved has no musty taste and there is no loss of flavour, as is the case with some other systems of refrigeration. The greatest field of application for these machines is on board ship, and nearly the whole of the meat imported into this country in a frozen condition is so preserved. Formerly, too, almost all the land installations were on the same principle, but the carbonic-acid gas system is replacing it to a considerable extent, owing to its higher efficiency. The marine type of machine was fully described, together with a large duplex machine designed by the author.

This machine, it was said, had a capacity of 240,000 cub. ft. of free air per hour, and eight cylinders; one high pressure, low pressure, air and expansion cylinders being arranged tandem on one side, and intermediate pressure, low pressure, air and expansion cylinders on the other. The connections necessary to produce all possible combinations with the least number of valves were indeed a study. The expansion cylinder presents no peculiarity in design; it is similar to a Corliss cylinder having two cast-iron inlet valves at the top, both of which are actuated direct from one eccentric, generally through a "cat-head" motion, to give a sharper cut-off to each, the valve boxes being cast with the inlet branch on the cylinder. The exhaust valves and their respective valve boxes are made of bronze, and bolted to the bottom of the cylinder, immediately under the inlet valves. They also form the feet through which the cylinder is secured to the bed of the machine. These valves are long taper plugs, exactly the same as a gland-packed straight-through cock, the core of which forms the port and extends nearly the full width of the cylinder. The valve spindle is cast on the larger end, and here a gland is fitted with suitable packing to keep the same air-tight; the spindle is supported by a bearing in the valve cover, on either side of which adjusting lock-nuts are arranged to keep the plug in its correct working position, and, to take up wear, the taper on these

valves is very fine, so that the adjustment is easily made. These valves are also actuated by an eccentric, but on "cat-head" gear is needed in this case, the two valve spindles being directly coupled together.

The arrangement of cold stores for the freezing and preservation of meat, etc., consists in lining the chamber, or the hold of a vessel, with a suitable non-conductor of heat. In most cases it takes the form of an inner and outer skin of from 1 to 1½ in. tongued and grooved boards, with a space between, filled with charcoal, silicate cotton, or refuse and waste cork, ground up into powder and cemented together. The cold air delivered by the machine enters by means of ducts placed near the ceiling, and, being heavier than the surrounding air, immediately falls to the bottom. After abstracting heat and performing its cooling work, the air is conducted back through similar ducts, placed at the most remote point from the entering air, to the compressor, to be used over and over again, with the addition of a small amount of fresh air to make up for losses. For freezing, the carcasses are hung with sufficient space between each for the air to circulate freely round them, the temperature being maintained usually at 10° F. For storage the carcasses are packed horizontally, as close together as possible (care being taken to prevent injury through bruising), and the temperature is kept at 30° F. at the commencement of the voyage, and 35° F. towards the end. Amongst other uses, cold-air machines have been applied for supplying fresh, cool air for the ventilation of ships' holds in which cattle are carried, and also for transports. With ships thus fitted, a temperature of 100 degrees F. has been reduced to 70 degrees in the height of summer, so that loss of stock has been entirely avoided, while the comfort of beasts and attendants has been increased. Fish is similarly preserved on board steam carriers and trawlers, and the same system is applied to the cooling and ventilation of buildings. In conclusion, Mr. Ball gave an account of the carbonic-acid compressors and ammonia machines. He expressed his thanks to Messrs. Hall and Son, Dartford, for their courtesy in placing at his disposal a number of excellent photographs of the machines with which the paper was illustrated, and to his friends (Mr. Knight and Mr. Tilly) for their valuable assistance in the preparation of the diagrams.

The chairman said afterwards that Mr. Ball had read a most interesting paper. He (the Speaker) confessed that when he came there that evening, he knew very little indeed about refrigerators. He knew the advantage of them, of course, but that was about as far as his acquaintance went. Mr. Ball, however, had given them all a great deal of valuable information. He had laid before them sufficient details to explain the working of the machinery, and this was an important point, for it happened sometimes that the most difficult points in relation to a subject were left out altogether. His own experience of the refrigerating machinery on board ship was that it usually made more noise than the main engines.

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### Need of Cold Air Stores.

OUGHT our municipalities to provide cold air stores and ice factories for the benefit of the local tradespeople? The question has just come before the Town Council at Blackburn, where Dr. Wheatley, the medical officer of health, has reported that it is a matter which affects the health of the town, and has pointed out the great advantage of ensuring a supply of ice. Unfortunately, nothing has been decided yet. The problem has been referred to a committee, but it is to be hoped that it will be properly threshed out.



## Official Reports and Notes.

### Bristol City Analyst's Salary.

THE Watch Committee report that they have received an application from Mr. F. Wallis Stoddart, the public analyst for the city, for a readjustment of the terms of his remuneration. Owing to the greater number and variety of the samples which under the direction of the committee are now taken and submitted for analysis with a view to the due and efficient execution of the Sale of Food and Drugs Act, 1899, and in consequence of the recent decision of the High Court of Justice which requires that all analyses on which certificates are based must be made personally by the analyst, the duties of the city analyst have been very largely increased; whilst the committee find that in other large towns whose population is approximately that of Bristol the remuneration of the city analyst represents a sum per sample greatly in excess of that paid in Bristol, and frequently exceeds the half guinea contemplated in the Food and Drugs Act, 1875. The committee believe that Mr. Stoddart has always performed his highly scientific duties to the satisfaction of the Council, and this is borne out by the fact that in very few instances has the accuracy of his analysis been challenged. After carefully considering the information furnished to the committee as to the terms and conditions under which similar duties are performed in other large towns, the committee are of opinion that the position held by the Mr. Stoddart is worthy of increase emolument. They therefore recommend that the present salary and allowance of the city analyst, amounting to £200, shall be held to cover the first 600 samples yearly analysed by him, and that for all samples analysed in excess of that number he be remunerated at the rate of 10s. 6d. per sample.

\* \* \* \*

### The Sale of Food and Drugs Act in Leeds.

MR. THOMAS FAIRLEY, public analyst, reports that the following articles were submitted by the inspector:—

Milk, 106, butter 1, cheese 1, margarine 1, lard 2, milk of sulphur 1, golden syrup 3. Total for the quarter, 115. Eleven of the milks were watered, 2 had been partially deprived of their fat, and 32 were poor or of low quality. These together correspond to about 42 per cent. of the milks are unsatisfactory. The sample of margarine had been exposed for sale without a distinctive label. Two of the samples of golden syrup were adulterated with glucose syrup, the amount of the adulterant being in each case 75 per cent. The other samples were genuine.

### Adulteration in Norwich.

MR. W. L. SUTTON, Public Analyst, reported that he examined during the year 101 samples, namely, milks 52, butter 36, bread and butter 3, cream 3, jam 2, lime water 5. Of these 77 were genuine and 17 were adulterated, namely, 12 milks, 4 butters, and one lime water. These figures were high, being twice as much as the average for the whole country. Mr. Sutton continues:—The adulteration of milk in Norwich is nearly double even that of London, which has always been constantly high. But is it surprising, when the magistrates inflict a fine of 5s. without costs for selling milk deprived of 20 per cent. of its fat, 6s. and 8s. costs for milk with 6 per cent. added water, and 10s. fine and 8s. costs for selling milk which has been both skimmed and watered, with a previous conviction against defendant? All these are actual fines inflicted by the city magistrates during the year. Seven samples of milk returned as of low quality were very suspicious, but it was not possible to certify actual adulteration with regard to them. If they are included with those certified to be adulterated, then 36.5 per cent. of the total number of milk samples taken were sophisticated. Several of the milks contained boric acid added as a preservative. No prosecution was recommended in these cases, although I feel strongly (and I am sure the Medical Officer of Health does also) with regard to this indiscriminate dosing of an article like milk, the staple food of infants. When one remembers how easy it is to put out of gear that delicate balance, the digestion of an infant, it is impossible not to condemn the practice. The exigencies of the summer milk trade are pleaded in extenuation, but too often the use of preservatives is an attempt to prevent or mask the consequences of want of cleanliness. As the consulting chemist to the British Dairy Farmers' Association says:—"If the milk be obtained from the cow with sufficient precautions as to cleanliness in milking, and properly cooled before being sent off, the farmer has no right and no need to add any preservative to that milk. I am even opposed to the wholesale receiver or retail vendor adding preservatives." During the year 87 samples of water were analysed. Of these 48 were condemned as dangerous to health, and 39 were passed as not unfit for drinking purposes.

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### Appointment of Analyst.

MR. WM. MARSHALL, F.J.C., has been appointed Public Analyst to the Borough of Hyde.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

MILK PROSECUTIONS.—At Albrighton Petty Sessions, Herbert Birchall, farmer, Cross Green, Berwick, was charged with selling milk which had been adulterated with three per cent. of water. Mr. S. M. Morris appeared for defendant, who pleaded not guilty. Police Constable Lycett said that on March 25th he met defendant's milk cart, which was being driven into Shrewsbury in charge of a man named Edward Pound, from whom witness obtained a pint of new milk. He afterwards divided it into three portions, one of which he gave Pound, another he sent to Mr. T. P. Blunt, the county analyst, and the other he kept himself. Mr. T. P. Blunt, who had been summoned to

give evidence, said that the sample of milk he analysed contained 97 per cent. of genuine milk and three per cent. of added water. In answer to the Magistrates' Clerk (Mr. W. M. How), witness said that there was no doubt about there being three per cent. of added water, because the data by which it was analysed was very much in favour of the vendor of the milk. Mr. Jones: What is the difference between adulterated milk and milk from a cow which is nearly dry? It is a very important point. This case occurred in March, which is a bad time of the year. Mr. Blunt: I should say I have never heard of that distinction made before. Mr. Jones: It is made; it is a trouble they are finding in London at the present time. Mr. Morris: In this milk there is about one-fifth of a wineglassful of water added to one pint of milk. That is very small? Mr. Blunt: Yes; it is exceedingly small. But we must remember that the data upon which this conclusion is founded gives tremendous favour to the vendor. Mr. Morris: It does appear to me if a man intended to add



water to milk to make a profit he would put a little more? Mr. Blunt: My opinion was that there was nine or ten per cent. of water added to it, but I am not prepared to swear it. Mr. Morris: Excuse me; in your report of the analysis you say that you found 97 per cent. of genuine milk in the sample. Is that correct? Mr. Blunt: I can say I found no more than 97 per cent. of milk. Mr. Morris: Would not the time which elapsed between March 25th and the date on which you made the analysis make some difference in the nature of the milk? Mr. Blunt: It would not be possible for it to depreciate in quality during that time. Mr. Morris: I have heard it stated that milk is of low quality at this time of the year? Mr. Blunt: I should not like to give an opinion on that point. Mr. Morris: Would the fact of cows being fed on mangolds and food of that description make a difference in the quality of the milk? Mr. Blunt: Watery food is said to make some difference. Mr. Morris: You have adopted for the basis of your calculations that in genuine milk there should be 8·5 of solids in fat? Mr. Blunt: Yes. Mr. Morris: Would you undertake to say that there may not be cases in which milk naturally comes below that standard? Mr. Blunt: In individual cows, undoubtedly. Mr. Morris: And may it come as low as the standard you found in this milk? Mr. Blunt: A little below in individual cows. Mr. Morris: Is it not a fact that at the present moment a departmental committee is sitting to endeavour to fix a better standard than 8·5, which is thought to be too high? Mr. Blunt: Personally, I think they will say that standard is too low. Mr. Morris: I am going to call an eminent gentleman from Liverpool who will say something different. Do you know that at Lambeth last week a man was summoned for a similar offence, and at his suggestion an inspector milked a cow himself, and on analysis the milk was found to contain 11 per cent. of water? Mr. Blunt: I have not seen the case. For the defence, Mr. Morris said that that was the first case in which a man had been prosecuted where an analysis had shown only three per cent. of added water, and he thought it was a most ridiculous charge, even if the defendant had added the water, which he emphatically denied. After hearing defendant and a man named William Downes, who denied that water was put in the milk, Mr. Barker said that the Bench did not wish to hear further evidence. The case was a very paltry one, and it would be dismissed. Mr. Morris, applying for the cost of the defence, said that defendant had been put to considerable expense, and had had to bring down an analyst from Liverpool, who had analysed one of the samples. The application was refused. —Percy F. Phillips, Braidmoor, for whom Mr. J. C. H. Bowdler appeared, was charged by Sergeant Wainwright with having added seven per cent. of water to milk on March 25th. For the defence it was stated that no water had been put in the milk, and although samples had been taken inside the Borough three or four times no police court proceedings had been taken before. This case was also dismissed.

Mr. Chambers Leete, clerk to the Kensington Vestry, appeared to represent that body in two summonses taken out by them against F. Lloyd, of Fulham, and Cowley, of Holland Park Avenue. The Chairman said he understood the question of adding boric—or boracic—acid to milk was before a Royal Commission, and suggested that until a decision had been arrived at by that Commission the summons should stand over. Mr. Ricketts said he had three cases before Sir John Bridge, and they were all dismissed, as the magistrates thought the matter was not injurious to health. Mr. Halswell: The leading magistrate in London? Mr. Ricketts: Yes; and Mr. Lane took the same view at the South-Western Court. Mr. Leete said that Dr. Dudfield, the medical officer of health, had certified that the use of boric acid in milk was injurious to young children, and that the Society of Medical Officers of Health of Great Britain were unanimously of the same opinion. After some further argument, the summonses were adjourned, on the defendants agreeing not to use boric acid either by themselves or their servants. John

Jones was summoned for selling milk from which eight per cent. of fat had been extracted. Mr. Ricketts said the milk was purchased from a very respectable firm, the Great Western Railway Dairy Company. At the request of the defendant, the sample was ordered to be sent to Somerset House.—A similar order was made in the case of a summons taken out against Mr. Haysman, of Prince's Road.

William Jarvis, of 52, Durham Road, Finsbury Park, trading as the Callow Park Dairy Company, was summoned for selling milk from which 23 per cent. of its cream had been abstracted without disclosing the alteration. Dr. C. Sanders prosecuted for the West Ham Town Council. Mr. Steele defended. The defendant did not appear, and Mr. Steele, for the defence, said he was put in a great difficulty, for he had intended to call Mr. Jarvis as a witness, to prove the manner in which his business was done. Mr. Baggallay observed that that kind of evidence would have very little weight on the case, and, it having been proved that the defendant had been previously convicted for milk adulteration, his Worship imposed a fine of £10, with £1 10s. 6d. costs.

At Sunderland, Henry Henderson, was summoned for an offence under the Food and Drugs Act. Mr. I. Isaacs defended, and pleaded not guilty. The Town Clerk (Mr. F. M. Bowey), on behalf of the Corporation, stated that on March 11th one of the inspectors purchased a pint of milk from the defendant as he was delivering it in North Bridge Street. Inspectors Watson, Harrison, and Sinclair gave evidence. Mr. J. Patterson, public analyst for the borough, said that the sample had 10·4 of added water. Defendant, sworn, stated that he was a milkman, carrying on business at Humbledon Hill House. He had no cows, and got the whole of his milk from Mr. Robert Johnson, Mansion House Farm, East Boldon. His practice was to meet Johnson's cart half-way between Boldon and Sunderland, and then transfer it to his barrels, subsequently delivering it to his customers. The milk was never tampered with, so far as he knew, and he believed it to be pure. A fine of £5 and costs was imposed.—John Henry Mallam, farmer, Tunstall, was charged with a like offence. Mr. A. T. Crow defended. The Town Clerk stated that in this case the added water was 26·5, and the milk was sold by the farmer himself. Inspector Lee proved the case. Mr. Patterson said that the sample was one of the worst he ever had. By Mr. Crow: He was not aware that turnips or grass were very scarce. The absence of turnips and a shortage of grass would affect the fatty substance to some extent. Feeding cattle on brewers' grains would also reduce the fatty substance. By Mr. Bowey: These would not account for the poorness of the milk except in a very slight degree. Mr. Crow, for the defence, said that his client had run short of turnips, and there being little or no grass owing to lack of rain. Mr. Mallam had to obtain some brewers' grains. This was the cause of the poorness of the milk. There had been many samples taken from the defendant's cart, and there had not previously been any complaint. The Bench imposed a fine of £20 and costs. The sentence created quite a sensation in the court.—Arthur Land, of the Lands Dairy Company, Newburn Street, was summoned for a like offence. Mr. I. Isaacs defended and pleaded not guilty. Inspector Sinclair spoke to purchasing a pint of milk from the defendant in Hylton Street on March 11th. Defendant told him that it had been delivered to him at Millfield Station from Mr. Lambert, farmer, Penshaw. Mr. Patterson said that the sample contained 11·4 of added water. Mr. Isaacs applied for the sample to be sent to Somerset House. Mr. Bowey concurred, and the case was adjourned for four weeks.—Thomas Heron was charged with a similar infringement. Mr. W. H. Bell defended, and applied for an adjournment, as a material witness was not able to attend in consequence of illness. The case was adjourned for four weeks, the sample of milk to be sent to Somerset House.

In the Belfast Summons Court on May 3rd, a milk



contractor named William Chapman, Ivy Hill, Dunmurry, was summoned at the instance of the Belfast Board of Guardians for having sold to them on 19th March, a quantity of milk adulterated with 10·35 per cent. of added water. There was a second summons in respect of milk delivered on the 21st March, and which was alleged to contain 30·94 per cent. of added water. Complainants further alleged that the defendant had been previously prosecuted on the 1st December, 1899, for having committed a similar offence on the 7th November, 1899. Mr. William Harper appeared for the complainants, and Mr. David McGonigal represented the defendant. Adam Weir, workhouse master, stated that on 19th March he took three samples from a quantity of milk delivered at the Union Workhouse, Lisburn Road, by defendant's servant. That was about 5.15 p.m. He kept one sample himself, gave the second back to the man who had delivered the milk, and forwarded the third to the public analyst. Witness knew the man who had delivered the milk to be in the employment of the defendant. Cross-examined, witness said that the milk was being delivered on the occasion in pursuance of a contract in writing between defendant and the Board of Guardians. That contract was now in the possession of the clerk of the union. Robert Barklie, city analyst, stated that he had analysed the sample of milk sent him by the workhouse master, and found that it contained at least 10·35 of added water. To Mr. McGonigal—Milk with a quantity of water added would contain a proportionately less quantity of fatty matter than pure milk would. J. C. Neeson, clerk of the union, stated that he was the subscribing witness to the contract, which had been signed by Mr. Chapman and sealed with the seal of the Board of Guardians. Charles Culbert, storekeeper at the workhouse, stated that Richardson, who had delivered the milk on the occasion, had been delivering milk for Chapman for the previous six months. Mr. McGonigal, for the defence, said his case was a very short one, as he had only one witness to examine; but the evidence of that witness would show that the Board of Guardians had no case. In any event, it appeared to him that it was a prosecution probably undertaken on the advice of his friend, Mr. Harper, and one from which no practical results would accrue either to the Guardians or to anyone else. The matter stood in the following way:—On the day that the case was brought before the Court, he (Mr. McGonigal), on the instruction of his client, asked for an adjournment in order that counsel might be retained to defend him. But, under the circumstances which had arisen, and which, indeed, were then existent, his client had found himself unable to raise the money necessary for counsel. That being his position financially, he (Mr. McGonigal) did not think that very much could be gained by the action of the Guardians, in proceeding against him. The defendant was and had been a bankrupt upon the occasion upon which the milk was delivered. Upon that very day, indeed, he was adjudicated a bankrupt, as the certificate (produced) would show. The time in the day at which the milk was taken by Mr. Weir was 5.15 p.m. At that time defendant was a bankrupt; and upon his adjudication all his property, his cows and milk—if he had any cows or milk—passed from him and vested in the official assignee. Therefore, at the time the samples were taken, the defendant had no milk to sell, and no man could sell milk unless he had it. It was absolutely necessary under the section of the act that if a conviction was to be entered, there should be a sale. The milk which was delivered to the Guardians on the occasion in question was the property of the official assignee. He (Mr. McGonigal) would prove to the Court that at the time the milk must have left the defendant's place in the country where he resided, the man was actually in the Courthouse on the Crumlin Road, so that if any adulteration did take place, that adulteration had not been caused by him. Further, the Guardians alleged that this transaction was a sale under the written contract signed by him. Now, upon the adjudication of Mr. Chapman, the benefit of that written contract vested equally with other property

in the official assignee, and the Guardians would be bound to pay to the official assignee the price of the milk delivered upon that occasion. Again, it was alleged by the Guardians that this milk had been delivered by the servant of the defendants: but equally upon the adjudication the contract between the servant and his alleged master would have been terminated. If the defendant had died it could not have been more effectually ended. He contended that the Guardians could not, under section 6, sustain the prosecution against Chapman. James Gray, examined by Mr. McGonigal, stated that he was the messenger of the Local Bankruptcy Court. On Monday, 10th March last, Chapman was in the Bankruptcy Court from 12 o'clock noon till 4.30 p.m. The adjudication was ordered at ten minutes past four o'clock, and witness received the warrant at five o'clock. Cross-examined, witness said that on behalf of the Bankruptcy Court, he had no control over defendant's goods until 7.30 when he reached the place. Mr. Harper contended that he had fully proved the case for the prosecution. The defendant had entered upon the contract with sureties, and the sureties and himself were liable for any infringement of the contract. At the time the milk was sent away from his place the defendant was not under the protection of the Bankruptcy Court. Under any circumstances he had taken upon himself to deliver the milk in the ordinary course of his business, and upon that day it was delivered accordingly; and, being so delivered by his ordinary servant, and the proceeds of that milk being credited to his account, he took the benefit of the transaction. He submitted there was no evidence to show that the Bankruptcy Court had in any way interfered with the defendant in the execution of his duties, and defendant must accept the responsibility of the transaction. Of course, it was a matter for their Worships if the man's bankruptcy were to influence the amount of the penalty. Mr. McGonigal said the position of affairs was as follows:—At ten minutes past four o'clock on the evening of Monday, 19th March, his client was declared a bankrupt. Immediately upon his adjudication his entire estate, his cows, his milk, and his servant became vested in the official assignee. The milk was brought to the workhouse during his absence, but if the messenger of the court had been expeditious, and had seen the milk coming in on the cart to the Guardians, clearly he would have stopped the cart, and taken possession of it there and then upon the road. By accident the milk got delivered to the Guardians. He thought it was clear that his client had nothing to do with the fraudulent practices. Mr. Nagle said there was a very nice point of law involved, and he would reserve his decision for a fortnight.

The Cardiff Stipendiary (Mr. T. W. Lewis) had before him a case on May 7th, under the Food and Drugs Act, which he characterised as the most serious case of the kind he had ever had before him. The defendant was George Green, milk-vendor, of Portsmouth Road, and he was charged with selling milk from which 50 per cent. of butter fat had been extracted. The case was proved by Inspector A. J. Green, who put in the borough analyst's certificate, showing that the sample purchased at defendant's shop from the defendant himself contained only 1·47 butter fat, whereas a genuine sample contained 3·00 per cent. The defendant said he had sold the milk as he had received it from the Cheddar Valley Company. The Stipendiary: Had you a warranty? The Defendant: No, sir, I cannot get a warranty. Mr. Halloran, who prosecuted, said he was instructed to say that this practice was very prevalent just now in Cardiff. The Stipendiary: This strikes me as a very serious case, the extraction of fat being greater than I have ever known. Chief Inspector Vaughan: No such case has been heard here for years, sir. The Stipendiary reminded the defendant that the maximum penalty was £20. This was a sort of fraud that might have very serious consequences where the milk was to be supplied to children, for they would be deprived of the nutritious properties of the milk. It was a very easy thing for vendors to protect themselves



by having a warranty from their vendors. A fine of £10 and costs was inflicted.

Alfred Horton, 21, milk dealer, of Beacon Street, Springfield, was charged before the Stipendiary, at Bilston, for selling milk adulterated with 8 per cent. of added water. Inspector Van Tromp prosecuted, and Mr. Baxter defended. Evidence was called to show that it was retailed as it was received from the wholesale dealer. The Stipendiary said that as the defendant was a young man, and only just commencing business, he would deal leniently with him, and fine him £3 and £1 2s. costs.

At Sheffield, Sarah Everitt, milk dealer, was summoned for selling adulterated milk. Inspector Joseph Wilson called at defendant's shop and bought a pint of milk for 1½d., from a girl in defendant's employ. A part of the milk was sent to the County Analyst, who certified that the specimen contained 91 parts of milk and 9 parts of water. Defendant admitted the offence, but explained that the milk was supplied to her by another dealer. She was fined 10s. including costs.

Harry Edward Willmer, dairyman, of Bedford, was summoned by Inspector Mason, for selling milk from which 11 per cent. of butter fat had been abstracted. There was a second charge in which the portion of butter fat abstracted was said to be 15 per cent. Inspector Mason said he purchased a pint of milk from a man named Miller, who was selling from a cart and can which bore defendant's name, at New Fenlake. Defendant, in answer to the difficulty which the Clerk pointed out, said the lad Miller was selling for him. The Inspector said he told the boy who he was and that he bought the milk to be analysed. He sent a portion of it to Dr. Stevenson, the county analyst, whose certificate he now produced. Dr. Stevenson's report was that the sample was deficient in butter fat 11 per cent.; this opinion he based upon the fact that the sample contained only 2·66 per cent of butter fat, whereas normal milk contains at least 3 per cent. of butter fat. This being the case for the prosecution. Defendant said the milk was from his father's cows at Harrowden; it was exactly as it came from the cow. He was charged with abstracting cream, that he absolutely denied; it was not touched or tampered with in any way. For twenty years his family had served milk in Bedford and had never been charged with selling under quality. In the spring it was well known that cows yielded milk of inferior quality, which was probably due to their having been kept in confinement all the winter; and again it was a fact that the morning milk was not so good as the afternoon. Had there been any shade of dishonesty practised he would have scorned to defend the case, and he believed the Bench would abhor to do an injustice to an innocent man. The milk was not in the possession of his father more than three minutes from the time it left the cow to the time it was on the road. The Bench retired to consider the case, and after a lengthy absence returned, and said they would hear defendant's witnesses. Joseph Newman, farmer, of Harrowden: You have had my milk for many years. It comes straight from the cows in the cowshed into the cart and goes straight away. I have no separator and do no dairying. The cold weather greatly affects the milk. Cross-examined by Mr. Mason: I did not see the milk put into Mr. Willmer's churn that morning. William Barnard Willmer, the father of the defendant, was next sworn, and said his milk was dealt with in the same way. Mr. Newman's cowman brought the milk in a pail to witness and witness put it in the churn. There was about a gallon and a half of witness's cows milk. Cross-examined: Could not say whether on that morning Newman's cows were milked dry. He mixed the milk from his own and Mr. Newman's cows by putting them in the same churn. He had no separator and did not dairy. Thomas Jackson, cowman to Mr. Newman, said every morning he milked the cows in a proper way, and took the pail into defendant's father. He had milked for fifteen years. On this particular morning he milked the cows dry. Cross-examined: There were ten cows in milk that morning; nine were milked, and one of

them that was suckling a calf had some left. He had another man to help him milk. Samuel Watford, cowman to defendant's father, said he milked the cows every day, and took the milk to the brewhouse, where it was put in the churn. There was no separator there; and they had had no calves since October last. He got all the milk out of the cows as near as he could. Charles Miller, the lad who was in charge of the cart, said he went with it every morning. He did not put the milk in the cart; had never seen a separator in defendant's house. As he came along the road he did nothing to the milk, except to serve milk. He saw other people on the road with milk, but did not stop and speak to them. He had one bucket and one churn in the cart. Cross-examined: Had been working for Mr. Willmer about seven months. On Sundays he sold more milk than on week-days. On Sundays he sold about a gallon and two quarts extra. The Bench again retired for a time, and on their return said they had decided to convict, and defendant would have to pay a fine of 20s. and 13s. 6d. costs. Defendant: I suppose I can't object. The Chairman said he could not argue with defendant, but he might appeal if he wished.—The second case was then gone into, and the evidence for the prosecution was precisely the same, except that in this case the analyst's certificate showed that there was a deficiency of 15 per cent. in butter fat. The defendant did not re-call his witnesses, as he said they would give the same evidence. The Bench imposed the same penalty—20s. fine, and costs, 13s. 6d.

On May 5th, at Bristol, John Coombes, a dairyman, living at Whitehall, appeared in answer to an adjourned summons for selling milk adulterated with 13 per cent. of water. Mr. Wise (from the Town Clerk's Office) prosecuted, and Mr. H. R. Wansbrough defended. The case was adjourned from Friday for further evidence. Mr. Wansbrough called additional witnesses for the defence. Annie Walther, a neighbour of Mrs. Smith, stated that she had seen defendant call at Mrs. Smith's daily between three and four o'clock. Assuming that Mrs. Smith went to the orchard every afternoon, she would have seen her in all probability, but she had not. Catherine Dyer, living two doors from Mrs. Smith; Joseph King, a labourer; John Reynolds, a blacksmith; and John Bradford, a carpenter, also gave evidence showing that Mrs. Smith was not in the habit of visiting the orchard in the afternoon. Mr. Wise then called rebutting evidence. Mable Smith deposed that she stayed with Mrs. Smith for a fortnight in March. Mrs. Smith used to take her small can to Coombes's field in the afternoon. He delivered milk at her house sometimes before and sometimes after she had returned. Jane Williams stated she had seen Mrs. Smith go several times to defendant's orchard to fetch milk, and then go across the field to deliver it. Annie Jones, Hannah Bend, Annie Wheeler, and Harry Helliker, also gave evidence for the prosecution. The Bench stated that they were of opinion that adulterated milk had been sold by the defendant, but reserved their decision until they had heard the case against John Smith.—John Smith was then summoned for selling milk containing 15 per cent. of added water. Mr. Wise prosecuted, and defendant was represented by Mr. A. W. Taylor. Evidence was given by Inspector Simpson and May Smith, wife of defendant, who stated that she managed the dairy business. From Christmas, Coombes had been in the habit of bringing up cold milk from the orchard. Every day for about four months she had gone to the orchard for warm milk, excepting on Sunday afternoons. Mr. Taylor asked their worships to believe that his client was innocent, except that she sold the milk containing the added water. It was, he thought, the duty of Coombes to prove up to the hilt that Mrs. Smith watered the milk. Whilst she was straightforward with the inspector, Coombes had appeared to be afraid to supply Mr. Simpson with cold milk. The bench considered that Coombes had caused the adulteration, and he would be fined £5 and costs. Smith had sold adulterated milk, and they must fine him £1, including costs. If dealers in



milk would not protect themselves as now provided by Act of Parliament, they must suffer the consequences.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Adare (co. Limerick), on May 1st, John Smith was summoned for having, on April 7th, sold butter which was adulterated with water to the extent of 23·96 per cent. Defendant, who said he purchased the butter from Mr. Collier, Limerick, and sold it in the same condition as he received it, was fined 10s. and costs.

At Worcester, Mary Davies, 24, Love's Grove, shop-keeper, was summoned at the instance of Mr. W. Pacy, sanitary inspector, for selling adulterated butter. The Town Clerk (Mr. Southall) prosecuted. Mr. Beauchamp defended, and pleaded guilty, but, as he proposed to raise the defence that his client had bought the butter in good faith from a dealer, Mr. Merrick Jones, and had then retailed it. Mr. Dobbs attended on Mr. Jones' behalf. Mr. Southall explained that  $\frac{1}{2}$  lb. of butter was purchased from the defendant by Mr. Shepherd (assistant inspector), and that upon analysis it was found to contain 71·29 parts of foreign fat. As Mr. Beauchamp would raise the plea of warranty, Mr. Dobbs had a perfect right to attend and address the Bench in his client's interest. If the article was sold as butter, the case was as bad as it could be. The law required that notice of the defence of warranty should be given within seven days of the date of the summons. In this case the requirement was not complied with. But the invoice now produced was not a warranty within the meaning of the Act. It simply stated the price, "6lbs. butter, 5s. 6d.," without adding the word "pure" or any other word. The invoice should do something more than merely describe the article. Mr. Southall suggested that the Bench had need to be very particular in a case like this, because if they found that that was a good warranty in that court, it would become a false warranty in another court. Although they might be releasing one person, they would be putting another person into it. Alderman Caldecott: We want to release the right man. Mr. Beauchamp pleaded that the defendant had only broken the law unintentionally, believing that the article she bought and sold was butter. The price she paid for it, 11d. per lb., to sell again, was sufficient to lead her to believe it was butter. When she was served with the summons, she complained to Mr. Jones, and she now produced a letter from him, saying that upon enquiry he found an assistant, in a great hurry and in darkness, served her from the wrong slab of two in a cellar. Mr. Beauchamp submitted that the defendant's action in the matter was an innocent one. The had offended against the law, but not knowingly. Mr. Dobbs said his client was willing to help the defendant in any way if only they were satisfied that the butter she sold was the same butter that she bought from Mr. Jones. Apparently a mistake had been made by an assistant, for which his client would be liable in another court. He submitted that the Bench had only to deal with the merits of Mrs. Davies' case, and with nothing else. To him it was doubtful whether the invoice was a warranty, and it was not for that Court to hold Mr. Jones responsible for what Mrs. Davies had done. The Bench were persuaded that the defendant had acted in good faith in the matter, but there had been a breach of the law, which they hoped would be corrected in another Court. Under the circumstances the Bench would impose a fine of £2 and costs. If the offence had been committed knowingly the fine would have been a heavier one. They emphasised the necessity for a defendant to raise the plea of warranty within seven days of the issue of a summons.

At West Ham, on May 2nd, George Winters, 86, Woodgrange Road, Forest Gate, was summoned for selling adulterated butter. Butter at 1s. a pound was asked for, and the sample sold was shown on analysis to contain 95 per cent of margarine. The defendant pleaded guilty, and said he was at market on the day in question. A fine of £5 and 26s. costs was imposed.—A summons for a similar offence against Alexander Callam, of 264, Gipsy

Lane, Forest Gate, was dismissed, there being a doubt whether the lady who bought the sample asked for "half a pound of shilling" or "half a pound of shilling butter."—William Hening, of 533, Barking Road, was summoned for a similar offence, and said in defence that the margarine was sold by pure mistake. The adulteration was 40 per cent. of margarine, and Mr. Baggallay imposed a fine of £3 and 23s. 6d. costs.

At Bilston, John Rubery, grocer, New Village, was summoned for selling margarine in a wrapper not properly labelled. The wrapper had the word "margarine" printed upon it, but there were several other words in addition which were not allowed by the Act. The defendant was fined £2, including costs.

At Bradford, Patrick Shinley, lately of 19, Manchester Road, Bradford, was summoned for selling margarine as butter. Evidence was given that on March 29th, an inspector purchased a pound of butter and divided it in the usual way. The city analyst had reported that the sample supplied to him was margarine. In the meantime, however, the shop had been closed, and the defendant had disappeared. An order was made for a warrant to be issued.

At Oldham, Martin Farrell, an assistant in the employ of Thomas Molloy, provision dealer, 175, Huddersfield Road, was summoned for wilfully obstructing the sanitary inspector in the execution of his duty; Molloy himself was summoned for a similar offence, and further, under Section 16 of the Food and Drugs Act, 1875, for refusing to sell butter to the inspector on application for the purposes of analysis. It was alleged that after the purchase was completed, Farrell leaned over the counter and snatched the butter from the inspector, immediately running behind a screen in one corner of the counter. After a minute or two he returned with Molloy and offered to the inspectors another parcel, which they declined to receive. The Bench said that on account of Farrell's youth and inexperience they would only fine him 40s. and costs, or one month's imprisonment in default of payment. Their remarks did not apply to Molloy, who was older and more experienced, and was liable to a penalty of £30 and costs altogether. As it was the first offence proved against him, he would be fined £10 and costs for the first offence, and £5 and costs for the second, or three months' imprisonment in default.

At Sheffield, the Sheffield Corporation took proceedings against Messrs. T. E. Bingham and Co., provision dealers, Sheffield, for selling adulterated butter, exposing margarine for sale not properly labelled, and selling margarine not wrapped up in a label on which the word "Margarine" was printed. Duplicate charges were made against the firm's assistant, F. W. Taylor. Six similar summonses were taken out in respect of a shop No. 8, Wicker, in which Messrs. Bingham and Co. and George Thompson, an assistant, were charged with selling margarine in the same way. Mr. Neal, for the defence, said there was a point which he wished to call the attention of the Health Committee to. Because this young man had committed one offence by selling a pound of margarine as butter, the Corporation had issued no less than six summonses. The defendant Taylor was fined 40s. and costs on the first charge, the two other charges being withdrawn. In the second case, G. Thompson was charged with the same three offences. The defence was the same as in the previous case, namely that the butter and margarine got transposed. A fine of 40s. and costs was imposed. Mr. Battams withdrew the charges against the firm.

The visit of an inspector under the Food and Drugs Act to a shop at Adwalton, in the discharge of his duties, led to a most curious complication and a strong ebullition of feeling on the part of the proprietor of the shop. The facts were heard at the West Riding Court, Bradford, before Sir Theo. Peel (in the chair) and other magistrates. The defendant was Albert Carter, grocer, of Adwalton, and there were three charges against him, viz., selling



adulterated butter; not having "margarine" printed on wrapper; and obstructing the Inspector of the Food and Drugs Acts. Mr. Wardle (from the West Riding Solicitor's office) appeared for the prosecution; Mr. Harold Newell defended, and pleaded guilty to the three charges. Mr. Wardle said that all three charges were based on the same set of facts. The case was a most serious one, inasmuch as an officer of the West Riding County Council had been severely handled. On March 16th Mr. Jeremiah Duce, an Inspector under the Food and Drugs Acts, visited the defendant's shop, and sent a boy to make certain purchases, which included one pound of butter. Mr. Duce afterwards went into the shop, which was at that time full of customers, so that he had to wait about fifteen minutes before he could speak to the defendant. The Inspector then informed Carter that the purchases had been made for the purpose of analysis. An assistant accompanied the inspector, and as the former stooped down to pick up a butter wrapper, the defendant apparently lost all control of himself, and, seizing the assistant by the coat collar, threw him out of the shop. Having done that he turned to the defendant, and seized and struck him. A struggle followed, and a most curious sequel succeeded. Whilst the struggle was going on, two young men rushed into the shop under the impression that the inspector was a burglar and that the defendant was trying to capture him. These young men had some ground for their assumption, because for some time previously two men of suspicious looks had been loitering about the shop. The result of the fracas was that the inspector was knocked to the ground, and was held there until the police arrived on the scene. Then the defendant went into his shop and locked the door. Mr. Duce, however, succeeded in gaining admittance by the house, and the samples taken were recovered. Mr. Jeremiah Duce then gave evidence bearing out this statement. There was some laughter when he admitted that the two young men who came into the shop really believed him to be a burglar. Mr. Wardle was drawing attention to the fact that the defendant had been previously convicted of similar offences, but the Chairman informed him that it was not a proper time to make such a statement. Mr. Wardle said that there were special clauses for second offences. Sir Theo. Peel: Surely we know our own business in this court; it is most irregular. Mr. Newell, on behalf of the defendant, pleaded that his client suffered from heart disease, which reacted upon his nerves and made him subject to violent fits of temper. He had had a hard life, and now his business would be ruined. Fines would bring him to the Bankruptcy Court unless he was helped by friends. The Chairman characterised the case as a most serious one, and said it had been aggravated by the interference with the inspector in the execution of his duty. For selling adulterated butter the defendant would be fined 40s. and the costs, or one month; for not having margarine in a printed wrapper 40s. and costs, or one month; and for obstructing the inspector he would be fined £5 and costs, or two months' imprisonment.

At Omagh Petty Sessions D. A. Clements, butter merchant, Omagh, prosecuted Ellen M'Brierty for having, on the 19th April, at Drumquin, sold him a quantity of butter, the same not being of the quality specified. Mr. F. J. O'Connor appeared for the defendant. William Milligan, in the employment of Mr. Clements, stated that on the day in question the defendant came into the store and sold him some butter. On cutting one of the lumps he found that it was good butter outside, but a very inferior quality inside. The defendant stated to him that she did not think it was necessary to have good butter both inside and outside. In reply to Mr. O'Connor, he said that she did not tell him that the inside butter was older than the outside. She told him it was a white churning. The market price that day was 9d. but he paid her 7d. per lb. for her butter. He could not say if it was after he saw the inside quality of the lump that he paid her. By the Bench: It was on the appearance of the outside of the lump that he paid her 7d. per lb. Sargeant Curneen said that on questioning the defendant

as to the butter she stated that she did not think it necessary to colour the inside butter. Mr. O'Connor, for the defence, said that the only thing in the case was that the inside of the lump of butter was coloured and the outside was not. The magistrates imposed a fine of 20s. and costs, and ordered the butter to be destroyed.

**BAKING POWDER PROSECUTION.**—At Lambeth, on April 26th, George W. Robins, corn chandler, at Rye Lane, Peckham, was summoned by the Camberwell Vestry for selling baking powder which was found upon analysis to contain 21·6 per cent. of alum, thus rendering it injurious to health.—Mr. G. W. Marsden, solicitor to the Vestry, appeared in support of the summons. Inspector Groom, an officer appointed by the Vestry for the purpose of enforcing the provisions of the Adulteration Act, caused a penny packet of "American Baking Powder" to be purchased at the defendant's shop. The article was submitted to Dr. Frank Teed, the public analyst for Camberwell, who gave a certificate to the effect that it contained 21·6 per cent. of alum. The packet bore a label containing the words, "This is sold as an alum preparation." Mr. Marsden remarked that that was no defence to these proceedings. Section 8 of the Food and Drugs Act expressly provided that a label of this sort was no defence where the ingredients were injurious to health. Dr. Francis Stevens, medical officer of health for Camberwell, expressed the opinion that the presence of the alum would be injurious to health. The defendant said he considered the small proportion of alum in the powder was not injurious to health. Dr. Stevens: A very small amount of alum would produce a marked effect. Dr. Frank Teed, the analyst, agreed with Dr. Stevens that the presence of alum would be injurious to health. The defendant said he sold the powder quite innocently. Mr. Francis said he certainly sold it quite openly, but he had apparently acted contrary to law. He did not consider the case a bad one. He ordered the defendant to pay a fine of 10s. and £1 18s. 6d. costs.

**GOLDEN SYRUP PROSECUTION.**—At Loughborough Petty Sessions, Lawrence Stevenson, grocer, Castle Donington, was summoned for selling adulterated golden syrup on April 6th. Mr. George Rowlatt, of Leicester, appeared to prosecute, and Mr. R. S. Clifford was for the defendant. The facts, as detailed in evidence for the prosecution, were that P.C. Hancock, on behalf of the Deputy Chief Constable purchased 2lb. of golden syrup in a tin at defendant's shop. The analysis proved that only 40 per cent. of it was sugar syrup, and the remaining 60 per cent. was glucose syrup, made from starch. Mr. Rowlatt pointed out to the Bench that no intimation was given to the purchaser that he was not being supplied with ordinary golden syrup. The tin was wrapped up in a paper, and the purchaser had no opportunity of seeing until afterwards that upon it was a label, "This syrup is guaranteed pure, is British refined, and solely made with glucose syrup and pure cane sugar; warranted free from beet and other injurious ingredients." Captain Heygate (from the Bench) asked Mr. Clifford whether purchasers ought to take up every article and read all labels. Mr. Clifford replied that the Queen's Bench had held that view. Captain Heygate: It would make shopping rather a long job. Evidence having been given by Deputy Chief Constable Smith and Alfred H. Seneschall, assistant to defendant, Mr. Clifford said one point for the magistrate to decide was, "Did the constable ask for 'Golden Syrup,' or syrup only?" The Bench intimated that they were of opinion "Golden Syrup" was asked for. Mr. Clifford further contended, on behalf of his client, that there was no intention to defraud, and held that the defendant was protected by the label, without specifically calling the attention of the purchaser to it, and quoted recent decisions in the courts in support of his contention. Mr. Rowlatt, replying, submitted that defendant could not rely upon the label, which was obscure. Finally, after a hearing lasting upwards of two hours, the Bench dismissed the case. Defendant applied for costs, but they were not granted.



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Food and Sanitation.

SATURDAY, MAY 19, 1900.

What is Demerara Sugar ?

An Astonishing Decision in Birmingham.

“Are things what they seem ?  
Or is visions about ?”

Is real Demerara a failure ?  
Are all save the “fakers” played out ?

On May 11th, 1900, there were several estimable traders and others “lying, in a frightful dissolute state,” around Birmingham on account of the fall of Demerara. It appears that the Birmingham authorities actually had

the audacity to believe that Demerara sugar was Demerara sugar, and summoned a local trader named Thomas Giles Davis, of 256, Ladypool Road, for selling Demerara sugar which was not of the nature, substance, and quality of the article demanded, inasmuch as it contained 100 per cent. of dyed sugar crystals. Mr. Hiley (deputy town clerk) appeared on behalf of the Corporation ; and the defendant was represented by Mr. Hugo Young, Q.C., and Mr. J. J. Parfitt (instructed by Messrs. Jaques and Sons, the magistrates on the Bench being Messrs Howard Ryland and Fisher. There were a large number of prominent grocers present, including Councillor Jarvis and Mr. J. F. Edwards, of the Birmingham and Midland Counties Grocers' Federation.

Mr. Hiley, in opening the case on behalf of the prosecution, stated that on April 5th, a pound of Demerara sugar was asked for and paid for from defendant's shop on behalf of Inspector Jones, who, after informing the defendant that the sample was required for analysis under the Food and Drugs Act, sent one-third of it to Dr. Hill, the public analyst. In due course Dr. Hill issued his report, in which he certified that the sample contained 100 per cent. of dyed sugar crystals. That, in effect, meant that the sugar was not genuine Demerara, but was coloured to imitate it. The witnesses would say that they had found in the samples tissues of pure cane sugar coloured with some aniline dye ; and that it was absolutely necessary for Demerara to be undyed. He should also call various gentlemen engaged in the trade as planters, brokers, or importers, who would say that the trade term Demerara, meant pure cane sugar undyed and grown in Demerara ; that it was the finest in the market, always fetched the highest price, and was remarkable for its aroma and flavour. They would say that the term Demerara always meant sugar which came from Demerara, and that the finest qualities of raw sugar were always denoted by their place of origin. For the defence it might be urged that this being cane sugar, and being, perhaps, equal in a great many of its properties to Demerara, precluded any prejudice to the purchaser. But he submitted that this was a question of flavour, and that the whole reputation of Demerara was on account of its flavour and aroma. He should ask the magistrates to find that the sugar supplied was not of the nature, substance, and quality demanded.

Evidence was then called for the prosecution, and proof of the sale having been given, Inspector Jones stated that after the purchase the defendant told him that he bought the sugar as pure. Dr. Alfred Hill stated that he believed the sample which he examined to be an imitation of Demerara. It had been coloured with aniline dye, he should say undoubtedly with the object of making an inferior article look like Demerara, and fetch a better price. He could not swear that this sugar did not come from Demerara, but he had analysed 121 samples of Demerara in the past nine years, and had only found in four cases of that kind traces of aniline dye. He could not prove that there was anything injurious in the sample in question. Mr. Charles Edward Cassal, F.I.C., analyst



for Kensington and several other city and provincial districts, said that true Demerara possessed a natural colouring, and should be free from any foreign substance. By means of a dyeing process an inferior sugar or a beet sugar might be made to look like Demerara. Mr. Hugo Young put it to the witness that the colouring might be used to make the sugar of a uniform colour and more pleasing to the eye; but he replied that that was not the object he attached to it. Mr. Alfred Henry Allen, F.I.C., analyst for the West Riding of Yorkshire, the city of Sheffield, etc., gave similar evidence. Mr. Ernest Tinne, of Sandbach, Tinne and Co., Liverpool and Demerara; Mr. Samuel Cameron, of Booker and Co., West Indian merchants; Mr. Wm. Powell, of Crossfield and Co., Liverpool; Mr. Gilbert Fox, of Edward Gray and Co., Liverpool; and Mr. S. M. Freeman, sugar broker, Liverpool, also gave expert evidence. In the course of their testimony they unanimously denied the suggestion of Mr. Hugo Young that Demerara was a generic term applied to any sugar from the West Indian islands, and agreed that throughout the trade the term was understood to mean "pure cane sugar, undyed, and coming from Demerara." The sample in question, they agreed, was an inferior sugar, dyed, in order that it might fetch a higher price. Before dyeing it would probably be sold at about 13s. 6d. per cwt., and afterwards at 17s. 6d.

Mr. Hugo Young, in opening the case for the defence, asked the magistrates to consider whether, assuming it was real Demerara sugar, dyeing would constitute an offence. If the dyeing constituted an offence, there was the further question—was this real Demerara sugar from the Demerara Valley, or was it what was commercially known as Demerara sugar? He submitted that it was not an offence to dye real Demerara sugar before it was sold, because dyeing did not alter the "nature, substance or quality of the sugar." It was clearly defined in the 3rd section of the Act that it was only an offence to colour or stain an article of food in such a way as to make it injurious to health. With regard to his second point, there was no proof that it was not Demerara sugar. When the word "Demerara" was used, one did not mean merely sugar which came from the Valley of Demerara; but he contended it was well recognised in the retail trade—between customer and grocer—that Demerara sugar was any West Indian cane sugar. There was, he said, no attempt to defraud in this case. They wished to fight the broad question that it was no offence to sell genuine West Indian cane sugar as Demerara sugar. Every year large quantities of these aniline dyes were exported, not only to Demerara, but to all the West Indian islands, as a regular form of manufacture. The principal question in this case would be—was it proved that a really inferior article was palmed off upon the purchaser of sugar, and that the purchaser did not get what she would naturally expect.

Mr. Otto Hehner, public analyst for Nottingham, stated that dyeing West Indian sugar was almost universally resorted to in order to secure the yellowish

colour which people expected in Demerara. The aniline dye employed was absolutely non-injurious to health, and in no sense or degree affected the "nature, substance, and quality" of the article. It was used in the preparation of nearly every article of food, and in the case of sugar the whole object of dyeing was to make the sugar of an even colour and pleasing to the eye, in accordance with the public taste. He admitted in cross-examination that it was possible for these aniline dyes to be used for purposes of fraud, to make beet sugar look like cane.—Mr. Benjamin Newlands, consulting chemist, gave very similar evidence. He was the introducer of the system of dyeing sugar with aniline dyes, and he did it because at the time there was a sensation caused by a rumour of poisoning by the chloride of tin. He knew that the dyeing was extensively resorted to for the reason stated by Mr. Hehner. He himself had manufactured sugar by the Demerara process in London. Mr. Hiley: Are you one of those gentlemen who is engaged in colouring beet? No, I am not. I was only manager to the firm.—You have defended, haven't you, the dyeing of beet crystals?—I won't admit they were beet crystals.—Dr. Bernard Dyer, public analyst for Leicestershire, gave evidence for the defence.

Councillor Jarvis, vice-president of the Grocers' Federation, stated that he had been engaged in the grocery trade for thirty-four years. In the retail trade he should understand by Demerara any West Indian sugar which was crystallised, and he had always understood that it was dyed to give it its "complexion." If a customer asked for Demerara he supplied crystallised raw sugar. Mr. Hiley: We have heard of your qualifications as a member of the City Council. Witness: I am not here in that capacity, but as a grocer. Mr. Hiley: I want to ask you this: What trade do you do in sugar? How many pounds a week do you sell? I cannot tell you that. Are you not more celebrated as a gingerbread maker. (Laughter.) I have never made gingerbread in my life. I am not a gingerbread grocer. (Renewed laughter.) Mr. Hiley: Don't we see in the paper, "Birmingham Onion Fair. Come to Jarvis for gingerbread?" Witness: That is so. I do a big trade in biscuits. Mr. Hartley Wilson, a member of the Liverpool City Council, and a grocer of some twenty-five years standing, said he always understood Demerara, West India, and raw sugar to be synonymous terms.

In reply to the Clerk, Mr. Hugo Young stated that he had a number of other trade witnesses who could give similar evidence. The magistrates, however, did not think it necessary for those gentlemen to be called, and after a brief consultation in private, they announced that they had decided to dismiss the case. In response to Mr. Hiley's application for "specific findings," the Chairman stated that they were agreed that the sample of sugar was dyed, but they believed that it was of the nature, substance, and quality of Demerara sugar. In reply to Mr. Young, they stated that they were of opinion that the sugar was dyed in such a manner as not to be injurious to health.



## A Good Suggestion re the Fertilisers and Feeding Stuffs Acts.

THE Fertilisers and Feeding Stuffs Act is as striking an example of waste of Parliament's time as we possess. A compulsory Act doubtless would have benefited farmers, but to expect the most hopelessly indifferent class in the Kingdom to help themselves instead of grumbling is to look for figs from thistles. Mr. A. C. Wilson, District Agricultural Analyst, Durham County, had only seven samples submitted for analysis during three months, which fact speaks for itself as to the use farmers make of the Act. Mr. Wilson, however, makes a suggestion worthy of notice by other district analysts. He says:—"I have pleasure in reporting that the South Durham and North Riding of Yorkshire Tenant Farmers Protection Association have nominated their Secretary as a sampler

under the Act, I venture to hope that his nomination will meet with your approval. Much benefit would, I believe, be derived by agriculturalists in other parts of the county if they adopted a similar course, or availed themselves of the provision set forth in Section 3 of the Board of Agriculture's Regulations, which provides for the appointment of the Secretary of an Agricultural Society or other suitable person, as an agent for the purposes of the Act. The appointment of such an agent would *save a considerable trouble to the average farmer who is unused to the formalities which must necessarily be observed when samples are taken under the Act.*" In this way the Act might cease to be a dead letter.

## Proceedings of the Departmental Committee on Food Preservatives.

THE Departmental Committee inquiring into the use of preservatives and colouring matters in food sat again on May 2nd. Sir Herbert Maxwell presided. Professor Thorpe, Dr. Tunncliffe, and Dr. Bulstrode being present.

Mr. Arthur S. Lough said he was a member of the Irish Agricultural Organisation Society and was connected with numerous co-operative dairy societies. He was managing director of the Cavan Creameries (Limited), and also owned a private creamery. There had been an extraordinary revolution in the creamery industry of Ireland of late years. The industry commenced in the South of Ireland eight or ten years ago, and in the North of Ireland two and a half years ago. In that time they had established nearly 600 creameries. Of that number the co-operative creameries in which he was interested had established about 260. In Ulster the revolution had been more extraordinary than in any other part of the country. Ulster was not very much noted as a dairy district some time ago, and in less than three years they had got 108 co-operative creameries working, and thirty were in course of formation. The fourth creamery started in Ulster turned over £3,500 in the first year, £9,000 in the following year, £17,500 in 1899, and this year it was estimated that the turnover would be £25,000.

The Chairman: To what extent do these creameries as a rule rely upon the use of preservatives?—Nearly all the creameries at present use preservatives in the summer. Some do not, but the majority use preservatives.

Do the co-operative creameries manufacture butter? Only butter; we practically make no cheese whatever, and sell very little cream.

All fresh butter? It is called fresh butter, but of course it is two or three weeks old before used.

What is done with the separated milk? It goes back to the farms and is used to feed calves.

Would you find it difficult to handle your butter without preservatives? Certainly. One of the reasons why we use preservative is because we are asked to use it by the wholesale firms. As a matter of fact, a smaller quantity might be used. We have never heard any complaint whatever with regard to the use of preservatives in butter. I know that positively. But, as a matter of fact, we could do without preservative in the creameries in which I am interested, and we could get a little higher price if we did without it.

That is to say, you could make the butter and get it off your hands without any preservatives, but the wholesale dealers find they require to keep it longer and to keep it sound? This is it exactly. We find there is not a demand. I suppose the wholesale dealers find that there is not a demand for a huge quantity of what may be called saltless butter, and consequently they want the butter to stand a certain time. On the other hand, if the butter goes off for fresh butter, it is very probable that preservative would be used less and less, and we should try to get it into consumption earlier, and we shall be able to do that by the revolution which is taking place in the creameries. We shall get a better price for the butter if it is put on the market and used fresh.

Proceeding. Witness pointed out the difference which existed in the North and South of Ireland with regard to the feeding of cattle. In the North they were practically



making butter throughout the winter, while in the South that was not the case. The result was that the necessity for pasteurisation was not so keen in the South as in the North. The dairies must pasteurise to produce the best butter, because the cows were so much winter-fed. In the creameries in Ireland they were putting up cold storage, which would make it easier if necessary to do away with the use of preservatives. The delay in the railway and steamboat service was practically the greatest curse they had to deal with in Ireland. They had got no suitable waggons for butter. He knew cases where in consequence of the bad railway facilities butter sent to London was declared bad on arrival, although similar butter sent to Belfast was all right. It was very difficult to get any damages against the railway companies, because the butter passed over several different lines. They had made representations to the railway companies, and perhaps with the new Agricultural Board they would get some assistance.

The Chairman: What is your experience of factory butter? I have never had anything to do with it.

Are there any butter factories in the North of Ireland? Yes; they are a great source of difficulty with regard to the butter business, because there are factories at the present time in the North of Ireland who buy up butter in the local markets, and bring it to what is called a blending establishment, and that butter is blended, and afterwards it is packed into packages identical with our creamery packages, and no brand is put on it, and it appears in the English market and is often sold as creamery butter.

Is there any reason why it should not be sold as creamery butter? It is not creamery butter. It is misleading.

You look upon factory butter as inferior? There is no doubt about that at all. Everybody in Ireland knows that.

Is not one of your most formidable competitors Normandy factory butter? Yes; but that is a very different thing. Factory or milled butter, which is what we call it in Ireland, is butter bought from the farmers in the local market and still made in the old way. It is salted butter which has been in the house for some time. The butter is blended. Under the Normandy system the farmers churn the butter, and they do not themselves put salt into it. It is immediately collected and brought to the blending establishment. That is an entirely different system.

What do you do about colouring matter in the creameries? It is hardly used at all. Some dairies use annatto in very small quantities.

If your trade was well established and thoroughly organised may we assume that the restrictions placed on the Danish producer in regard to the use of preservatives would not be too onerous for the Irishman? Certainly not, on the conditions you have stated. But it would take a little time.

Professor Thorpe: I gather that the tendency of your evidence is to deprecate the use of preservatives in the manufacture of butter? Quite so.

You think with due attention and cleanliness, and if necessary by the use of pasteurisation, the use of preservatives could be entirely obviated? In a short time, with proper organisation; that is, in the creameries.

Assuming that the system was organised, assuming that the system you speak of—the Irish Agricultural Organisation Society—had some sway, you think it would be no hardship for the whole of the Irish butter producers, whether factory or creamery, to do away with the use of preservatives? I personally would be in favour of doing away with them, but as to its being a hardship it would take considerable time before it would not be a hardship. There are some districts wherein it is very hard to establish creameries.

In the meantime before the happy time comes perhaps it would be expedient to require the butter producer to declare the presence of preservative in his butter? On that subject it seems theoretically a very nice thing to say. On the other hand it would be better, I think, if it were left, like other food products—say that you limited the quantity of preservative to be used, and that the analyst should declare whether the quantity was injurious or not. It would handicap the trade very much, I think, if you had to declare the use of preservatives.

How? Supposing a man discovered a harmless preservative, and he used it, and it was absolutely harmless, would it not be rather hard if he had had to say what it was?

Are you not rather begging the question when you assume that preservatives can be harmless? I would rather leave it to a chemist to say whether it is harmful. If it is harmful I would say it should not be used at all.

The term harmful is a question of degree. How do you imagine that these preservatives do their work? As a preservative I should say they stop corruption, so to speak. They hold back decay.

But is it not a fact that they work by virtue of their action upon the organisms which induce these changes which you call corruption and decay? Very probably.

Well, are not these or similar organisms concerned in every digestive process? Of course they are; but it is hard to say that a thing which has been used so long and which has never been complained of is harmful. We use poisons every day; without poisons some foods are no good.

But surely a process which arrests the action of digestion must be some extent a harmful process? Just as you state it, and being an unprofessional man, I should be inclined to agree with you.

Then if you can do without preservatives surely the consumers may be entitled to know whether he is eating something which has been more or less dosed with an antiseptic thing? I know that if I were the man eating them I should like to know. Personally I have no objection.

You think it quite right that the use of preservatives should be declared? It is quite right that it should be known that preservatives are used.

But how is that to be known unless it is declared on the article sold? You do not quite catch my point. There are preservatives which everything you say would apply to, but I think there are preservatives which I think what you say would not apply to.

We will confine ourselves to borax and boracic acid which is used. Surely the consumer has the right to know whether his food is being dosed? But is that not done by the analyst.

If it is a fact that borax or boracic acid is added to the food, surely he has the right to know that he is dosed with it? Certainly. In many creameries, I think, they are prepared to do without it.

By Dr. Bulstrode: The principal preservative used was borax, and no doubt if preservatives were prohibited it would give trouble. Still, if the scientific evidence showed that preservatives were harmful and they were prohibited, the trade would have to adapt itself to the change.

Do you think that the cream trade can be carried on without the use of preservatives? I would not like to give evidence on that point. We have sold cream without preservatives, but it wants to go into consumption very quickly.

You know nothing about pasteurisation? No; except the difficulty of establishing it.

The Committee again adjourned.

(To be continued).



## Dietetic and Hygienic Notes.

### Formaldehyde as a Milk Preservative.

A. G. YOUNG (*Proceedings of American Health Association*, November, 1899; *Medical Record*, November 11th, 1899) makes the following conclusions in regard to the action of formaldehyde as a preservative of milk:—

1. That used as a preservative it tends at least to impair the nutritive value of milk.

2. Its tendency is to interfere with the digestive processes. In either case it is only a question of dosage, and the limit of safety is difficult to determine.

3. That though the inhalation of formaldehyde gas is much less dangerous than the breathing of the other gaseous agents much used as disinfectants, the results of tests upon animals, and of one case of accidental poisoning of a human being, indicate that formaldehyde taken into the digestive system may produce dangerous and even fatal results.

4. It would be unwise and unsafe to encourage or to suffer the use of formaldehyde in the public milk supply, even under any possible restrictive regulations.

5. In every State, as is now the case in many, there should be a law prohibiting with effective penalties the use in milk of any chemical preservative whatsoever.—*American Journal of Medical Science*.

\* \* \* \*

### Shell-Fish and Typhoid.

DR. ARTHUR NEWSHOLME, Medical Officer of Health, Brighton, says in his annual report:—

"During the past year, 137 cases out of a total of 182 cases of Typhoid Fever notified in Brighton, were of local origin. Of these 137, 52 or 37·2 per cent. were, in my opinion, caused by sewage-contaminated oysters or mussels, 44 cases being caused by oysters and 8 by mussels.

The circumstances of the past year have been peculiarly favourable to the occurrence of an excessive number of cases of Typhoid Fever, the weather being both dry and hot, and commencing to be so early in the year, and continuing so more or less through its whole course.

The number of cases ascribable to oysters and mussels, shewed a remarkable decrease from August onward during the autumn months, when one naturally expects Typhoid Fever, especially Typhoid Fever due to this cause, to be in great excess.

This is shewn more clearly by the following table, in which the number of cases in the first seven months of the year and in the last five months, are stated as an annual rate per 100,000 of the total population, 1898 being contrasted with 1899.

Annual case-rate per 100,000 persons living in Brighton from Typhoid Fever originating in the town:—

	Oyster and Mussel Cases.		Local cases due to other causes.	
	1898.	1899.	1898.	1899.
First Seven Months ...	35·0	54·3	22·4	52·8
Last Five Months ...	31·4	25·3	54·6	65·4

It will be noted that while during 1898 the oyster case-rate in the last five months was only slightly less than that of the first seven months; in 1899 it was less than half of that during the first seven months of the year. Among the cases of local origin due to other causes than oysters and mussels, the incidence of Typhoid Fever was higher in both portions of the year than in the corresponding portions of 1898. The chief explanation of this remarkable change is, in my opinion to be found in the posters issued by your order, which were first posted in the week following August 16th, and which, I believe, lead to a very great diminution in the consumption of

oysters and mussels derived from layings contaminated with sewage.

Although this result is satisfactory so far as it goes, it still remains true that 52 cases of Typhoid Fever during the last year (13 since the issue of the posters) were caused by contaminated oysters and mussels. Furthermore, there is every probability that the effect of the poster will wear off in the public mind. It is necessary, therefore, in my opinion, that further steps should be taken to protect the public against the consumption of oysters and mussels contaminated by sewage.

It will be remembered that in consequence of the efforts made by the Brighton Town Council, a deputation representing many of the great towns waited upon the President of the Local Government Board on March 30th of last year. The deputation was favourably received by the President, who promised legislation on the subject. In accordance with this promise, a Bill was introduced and subsequently referred to a Committee of the House of Lords, before whom the Town Clerk and myself gave evidence. This Committee, unfortunately, decided not to place responsibility for the administration of the proposed Act in the hands of the County Councils, a decision which led to the President of the Local Government Board withdrawing his Bill. Matters now stand at that stage, and it is very desirable that pressure should be brought to bear upon the Government to urge them to re-introduce that Bill.

With this object in view, I recommend that a petition be addressed to the Local Government Board, and that the London County Council and the Corporation of the City of London and the great towns, should be approached and asked to support this petition. It is desirable that the words "mussels and other shell-fish" be added to the Bill, as the evils connected with shell-fish are by no means confined to oysters.

Yours obediently,

ARTHUR NEWSHOLME,

Medical Officer of Health

On the 19th February, in answer to a question by Mr. Loder, M.P., the President of the Local Government Board gave the following unsatisfactory answer:—"Since the publication of Dr. Bulstrode's report, and since legislation was proposed on the subject, there is no doubt that a great deal has been done to remove the evils complained of, and it is alleged that further improvement is still in progress. . . . The places complained of are comparatively few, and I am awaiting the Inspector's report before deciding whether re-introduction of the Bill is necessary and desirable or not."

\* \* \* \*

### A Sensible Gift to the Royal National Lifeboat Institution.

It is necessary for every lifeboat to be furnished with a supply of food for the sailors who man it—this is concentrated and always on the boat ready for immediate use. We understand that a supply of biscuits in sealed tins is kept in each boat, and that in addition to this Messrs. Cadbury have given a supply of chocolate for each of the lifeboats belonging to the Institution. The chocolate is packed in tins each containing rations for 15 men, these tins being made so as to bear much knocking about in the boat. They therefore have a double lid; the outer lid is easily removed and not soldered down, but is strongly made. The inner covering is hermetically sealed, but made of soft metal so that the hand can be easily pushed through it. The chocolate has already been found useful by some of the boats which put out to sea during last winter, and Messrs. Cadbury have promised to renew supplies free of cost as used.



## Official Reports and Notes.

### The Sale of Food and Drugs Act in Brighton.

NUMBER of samples collected during the year 1899, were 72—adulterated 6, prosecutions 4, convictions 4; aggregate amount of fines £15; Analyst's fees recovered £1; total £16. Cost of samples 17s. 5½d., cost of analyses £18, Inspector's salary £12, total £30 17s. 5½d.; fines and Analyst's fees recovered £16; net cost of working the Act £14 17s. 5½d. The samples collected were: Milk 62, butter 6, lard 4. Of the samples of milk, four were adulterated with added water, 17, 10, 6 and 3 per cent., 2 were deficient in butter fat, 20 and 10 per cent. The butter and lard were all genuine. Four milk-sellers have been prosecuted during the year, and fines ranging from £10 to 20s. have been inflicted.

\* \* \* \*

### Appointment of Inspector.

THE Food and Drugs Inspectorate for the Petty Sessions District of Newry has been filled by the appointment of Acting-Sergeant M'Namara.

\* \* \* \*

### Adulteration in East Sussex.

THE returns made by the Inspectors under the Sale of Food and Drugs Acts for the past quarter shewed that 25 samples had been submitted from Lewes and 25 from Rye, all being genuine with the exception of one. It was recommended that Mr. Samuel A. Woodhead be re-appointed Public Analyst for the term of one year from the 2nd July, 1900. The Council were recommended to authorise the Public Analyst to purchase a polarimeter for use in analysing samples at an estimated cost not exceeding £11.

\* \* \* \*

### Adulteration in Berkshire.

MR. W. W. FISHER, public analyst, reports:—During the past three months twenty-six articles have been purchased by the inspector under the Food and Drugs Act, consisting of milk, butter, lard, bread, flour and sweets. Eleven samples of milk were genuine, but two contained added water. No preservatives were found in any milk. The butters were free from admixture with other fats, but five out of six samples contained a boracic preservative; in three cases to the extent of 5 per cent. nearly, and in two about one-tenth of this quantity, viz., .05 per cent. The remaining articles were all genuine and satisfactory in character. Two drinking waters were examined, both of which were polluted, and were reported unfit for domestic use.

### Anglesey County Council and Adulteration.

THE County Analyst (Mr. W. F. Lowe, F.I.C., Chester) reported that during the quarter ending March 31st seven samples had been submitted for analysis, and all were found to be genuine. The whole of the samples consisted of milk, and they were all of good quality and free from preservatives.

\* \* \* \*

### Hastings Town Council—Analyst's Report.

THE report of the Public Analyst for the Borough of Hastings during the quarter ending 31st March, 1900, showed that the following articles had been submitted for analysis:—Milk 25, spirits 6, butter 8, margarine 6, cheese 3, sugar 1. One spirit was down to 28 degrees under proof, all others genuine. Some of the margarine were excellent, and certainly more wholesome and palatable than inferior butters. They contain in general some real butter, but all came within the statutory limit, and thus were not examples of the newly-created offence. The spirit case resulted in a fine of 20s. and costs.

\* \* \* \*

### City of Hereford Analyst's Report.

DR. A. BOSTOCK HILL, public analyst, reports:—During the last quarter ending March 31st last, I received 22 samples of food for analysis from Mr. S. Protheroe, inspector under the Sale of Food and Drugs Acts for your city. The samples consisted of the following articles:—New milk 10, butter 5, Demerara sugar 3, white pepper 2, mustard 2, and I am pleased to be able to report that all on analysis proved to be genuine.

\* \* \* \*

### Perthshire County Council Abolish Reverification Fees for Weights and Measures.

At the meeting of the County Council on May 7th, Mr. T. W. Greig of Glencarse, Convener of the Committee for the Administration of Weights and Measures, said that at a very full meeting the Committee had under consideration the apparent hardship of charging fees for weights presented for reverification and found correct, and they unanimously agreed to recommend that the charge for such weights should be remitted altogether. The loss to the county would be some £50, and a little additional trouble would be given to the Inspector of Weights and Measures, but it would be a great boon to farmers and small shopkeepers. He moved the adoption of the report, and hoped the Council would pass the resolution. Mr. Hutcheson seconded, and the report was unanimously adopted.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

MILK PROSECUTIONS.—At Cardiff, Alfred George Green, Portmanmoor Road, was summoned for selling milk from which 50 per cent. of butter fat had been extracted. Inspector Green bought some milk from Green and the analyst's certificate showed that the milk contained only 1.47 per cent. of butter fat, whereas it should have had 3 per cent. The Stipendiary characterised the case as the most serious of the kind he had ever had

before him, and asked the defendant what he had to say. The seller stated that he sold the milk as he received it from the Cheddar Valley Company. The Stipendiary: Have you the warranty? Defendant: No, sir, I cannot get a warranty from them. Mr. Halloran, who prosecuted, remarked that according to his instructions this was a practice very prevalent in Cardiff. The Stipendiary said it struck him that this was a very serious case. The extraction of butter fat was greater than he had ever known. Chief-inspector Vaughan: No such case has been heard for years, sir. The Stipendiary, addressing the defendant, informed him that the maximum penalty for this offence was £20, and "this sort of fraud" might have serious consequences, for where the milk was supplied to children they would be robbed of the nourishment the



quantity given them was supposed to contain. It was an easy thing for retailers to protect themselves by a warranty, and they should never neglect doing so. He imposed a fine of £10 and costs.

At Reading, on May 8th, William Holden, 138, Caversham Road, was summoned for selling adulterated milk. Defendant pleaded not guilty. Mr. Clutterbuck, the Deputy Town Clerk, conducted the prosecution. Ernest Kimber, of Mundesley Street, in the employ of the Corporation, said on March 30th he purchased a pennyworth of milk at defendant's premises. He was served by Mrs. Holden. William Henry Robertson, Sanitary Inspector, deposed that the previous witness had purchased a pennyworth of milk in accordance with instructions given by him. He divided the milk into three parts, giving one portion to Mrs. Holden, one to Dr. Ashby, the public analyst, and one he retained. Witness then put in the certificate which he received from Dr. Ashby, which showed the percentage of adulteration—8½ per cent. of added water. Defendant, who elected to be sworn, said if the milk had had water added to it, it was put in by those from whom he purchased it. On one occasion he had had cause to complain of the milk. It had varied in quality. He sold between 30 and 40 gallons of milk a day. The Bench were satisfied that the milk had been adulterated to the extent of eight per cent., and fined defendant £5, including costs; or, in default, 21 days' imprisonment. The money was paid.

#### LABELLING OF SKIMMED MILK.

A case of some interest to the dairy trade was arranged to be called before Sheriff Boyd at Glasgow, on May 11th. It raised the question of the interpretation of Section 2 of the Sale of Food and Drugs Act. By that section every tin containing condensed, separated, or skimmed milk requires to be labelled either "machine-skimmed milk" or "skimmed milk." Some of the authorities throughout the country have been contending that the section requires the labelling of every can containing skimmed milk, whereas the trade contend that the section is restricted only to condensed milk. Some time ago a circular was issued by the Glasgow authorities requiring the labelling of all tins containing skimmed milk. The contention of the trade was placed before the authorities on behalf of the Glasgow Dairymen's Association, and a prosecution was arranged as a test case. The authorities, however, intimated to the defendant's agent that they did not intend to proceed further with the prosecution. It is not known whether this means that the authorities admit the trade's contention in the matter, or whether the point may be raised again.

At Paisley Sheriff Court, on May 9th, Sheriff Henderson on the bench, James King, dairyman, 61, George Street, Paisley, was charged, at the instance of Wm. W. Kelso, sanitary inspector, with having, firstly, on the 29th March last, sold to William Adam, assistant sanitary inspector, from a cart in Storie Street, one pennyworth of skimmed milk, which contained 23 per cent. of added water; and secondly, that it was not labelled to conform with section 11 of the Food and Drugs Act, 1899. King, who appeared on his own behalf, pleaded guilty to the first charge, but not guilty to the second. Mr. William Walker, Burgh Fiscal, who appeared on behalf of complainant, explained, before accepting the plea, that he had libelled the charges cumulatively, though it might seem somewhat inconsistent to charge that the skim milk was not proper skim milk, and at the same time charge for not labelling it as "skimmed milk." The charge of want of labelling, had been now raised for the first time in Paisley under the 1899 Act, and as there were considerable differences of opinion on the point, he would have been glad to have had a decision given from his Lordship on it. Sheriff Henderson said he was quite conversant with the point, and, having studied the decisions already given, he had no hesitation in saying that labelling applied only to condensed milk. Mr. Walker then accepted King's plea, and withdrew the second charge. The Sheriff afterwards,

on the first charge, imposed a fine of £2, with £1 5s. of expenses.

WEIGHTS AND MEASURES PROSECUTIONS.—At Woodbridge Petty Sessions, Mr. Walter Ashton, coal merchant, Felixstowe, trading as Christie, Ashton and Co., was charged by Mr. Josiah Burkitt, Ipswich, Inspector of Weights and Measures, with selling coal contrary to the Weights and Measures Act, on May 2nd, at Felixstowe. Mr. Burkitt said that on the 2nd April he saw a carman in the employ of the defendant Company delivering coal at the house of Mr. Griffiths, Felixstowe. After a certain quantity had been delivered, he (Mr. Burkitt) asked Mr. Griffiths, in the presence of the carman, if he had received a delivery note and ticket of a weight in accordance with the Act, and he said he had not received one. The carman said he had not delivered the note, but he had one with him, and he then gave Mr. Griffiths the note (produced). Mr. Burkitt handed the note to the Bench, quoted section 21 of the Weights and Measures Act, 1899, to show that the note was not according to the form in the third schedule of the Act, or according to a form of the like effect. On the 3rd April he (the inspector) went to the Corn Exchange at Ipswich, and saw Mr. Woodmancy, who was a member of the firm, and spoke to him, and Mr. Woodmancy said he should not make any difference in the form of the note, and that he (the inspector) might do what he liked or could. The matter was allowed to rest a month, thinking that Mr. Woodmancy might think better of it, but on the 2nd May the firm were still pursuing the same course. Mr. Ashton (the defendant): Why did you go to the Ipswich market instead of coming to Felixstowe? The Inspector: I went there knowing Mr. Woodmancy to be a member of the firm. Bear in mind it was not compulsory for me to do either. Did you not approach Mr. Woodmancy in an uncouth manner in the presence of several gentlemen? Mr. Burkitt: Certainly not. I saw Mr. Woodmancy was busy, and I waited some time to speak to him. Did you not say something as to the manner in which business was conducted at Felixstowe, and that you would have to come and look after him? No. Did you not hear a gentleman ask if you were a detective? No. Are you a friend of a member of the General Purposes Committee who is in the coal trade? Oh, yes. Would you be surprised to find that he did not put the Act in force? I should. Mr. Ashton, in defence, contended that the ticket or note sent with the coal was in accordance with the Act, and he said there was more information on his note than on one used by a friend of Mr. Burkitt's. The Chairman said that did not affect this case. Mr. E. H. Woodmancy was called, and he stated, in reply to questions put by Mr. Ashton, that Mr. Burkitt came to him on the market, and said, "Now young man, I want to speak to you about the way in which you do your business at Felixstowe." There were two or three gentlemen around his stand, and he naturally resented this familiar form of address. The Bench decided that the note was not delivered in the form required by the Act, and inflicted a fine of £1 and 16s. 6d. costs.

At Sheffield, on May 10th, a coal dealer named Thomas Oxley, 3 Court, 1 House, Sudbury Street, was summoned for having in his possession, a 28lb. weight which was unjust, and had previously been condemned. Defendant said the weight had never been used, and he was not aware that it was unlawful to have it in his possession. The Chairman said that some people only gained experience by coming to the court, and defendant was fined £1, including costs. Bingham's Stores, Limited, of 9, Eyre Street, who have branches in other parts of the city, were summoned for having in their possession a 14lb. weight, seven drams short, and a 7lb. weight eight drams short. Mr. J. E. Wing appeared for the defendants, and admitted the offence, but urged that the weights were never used in selling goods to their customers. The place in Eyre Street was the head stores, and the stuff weighed by the weights complained of was sent to the branches. A fine of £1, including costs, was imposed.—John Cooke, emery dealer, was fined a similar amount for having in his



possession a pair of scales which registered half-an-ounce against the buyer, and a 14lb. weight that registered nine ounces too little.

At Liverpool, on May 10th, Edward Tellet, tobacconist, 166, Crown Street, for having in his possession one scale  $\frac{1}{2}$  dram against the purchaser, was fined 10s. and 7s. 6d. costs.—George Brockbank, butcher, 186, Stanley Road, for having in his possession one scale 10 drams against the purchaser, was fined 10s. and 7s. 6d. costs.—Samuel McDonald, bread and flour dealer, 285, Netherfield Road North, for selling a 2-lb. loaf in other manner than by weight, being 2 ozs. short weight, was fined 5s. and 5s. 6d. costs.—Ann Cropper, coal dealer, 2, Myers Street, for having exposed for sale coal in less quantities than represented, was fined 5s. and 7s. 6d. costs.—George Matthews, coal dealer, 29, Squires Street, for a similar offence, was fined 5s. and 7s. 6d. costs.—Hugh Davies, coal dealer, 119, Alt Street, for a similar offence, was fined 5s. and 7s. 6d. costs.—Edward McCann, coal dealer, 2, Nelson Road, for offering coal for sale in less quantities than represented, two bags 2 lbs. short each, was fined £3 and 7s. 6s. costs; also for having no labels attached to bags was fined £3 and 5s. 6d. costs; and for refusing to weigh coal when requested to do so by the inspector was fined £3 and 5s. 6d. costs.—The police also proved two offences against McCann, and upon Mr. Jones, chief of the Weights and Measures Department, stating that McCann had been heavily fined on previous occasions, the Bench imposed a penalty of £3 and costs in each of the five cases. Mr. Jones, Chief of the Weights and Measures Department, prosecuted. The cases were proved by Inspectors Smith and Dean.

COFFEE PROSECUTION.—At Worcester, Charles Hill, grocer, Malvern, was charged with selling coffee adulterated with chicory, as pure coffee, and pleaded guilty. Inspector Harrison gave evidence. Mr. Beauchamp appeared for defendant, and said the latter bought the coffee from Mr. Griffin, Worcester, but had no guarantee with it; 1s. was paid for the 1lb., and it was sold 1s. 4d. He did not know that the coffee was adulterated. He was fined 5s. and costs, 9s. 6d.

TINCTURE OF OPIUM PROSECUTION.—On May 4th, at Nottingham, William Gill, chemist and druggist, Nottingham, was summoned for selling tincture of opium that was alleged to be deficient in proof spirit. Mr. Glyn-Jones was present on behalf of the Chemists' Defence Association. The city analyst, Mr. S. R. Trotman, stated that in the sample examined there was an absence of 41 per cent. of proof spirit. In reply to Mr. Barlow, for the

defence, he admitted that in making his analysis he used the B.P., 1885, as a standard; he also stated that he was aware that the words "proof spirit" had been abandoned in the B.P., 1898. He always used the term "proof spirit," but admitted that it was a mistake. Mr. Barlow then submitted that the summons was bad, and ought to be dismissed; but Mr. Day, for the prosecution, contended that there is nothing in the Act to say that the public analyst shall use any particular standard for making his calculations, and that he can use what terms he likes in his certificate. Mr. Day admitted that there was no reason why the analyst should not have used the B.P., 1898, as the standard. The Bench dismissed the case, but refused to allow defendant's costs.

CAMPHORATED OIL PROSECUTION.—John Huson, Chumleigh Street, Camberwell, S.E., was charged at Lambeth Police Court on May 3rd, with selling camphorated oil which not of the nature, substance, and quality demanded. It appeared that the Camberwell Vestry, being anxious to get at wholesale dealers, obtained the assistance of an oilman, who ordered a quantity of small bottles of camphorated oil; by arrangement an inspector was at the shop when the bottles were delivered, and secured a sample. An analysis showed it to be deficient in camphor to the extent of 73 per cent. and to contain 94.2 per cent. of mineral oil. The bottles of oil were supplied on a card bearing the words, "Campholeum—formerly known to the public as camphorated oil." The defendant, who, it was stated, was an agent only, was fined £10 and costs.—George Baldwin, herbalist, Rye Lane, Peckham, S.E., was also fined £10 and costs for selling camphorated oil which was not in accordance with the B.P.—William A. Sargood, grocer, Bird-in-Bush Road, Peckham, and Ralph C. Wright, trading as Wright Brothers, Maxted Road, East Dulwich, were each fined 40s. and costs for similar offences.

BAKING POWDER PROSECUTIONS.—At Northampton on May 9th, two grocers were each fined 10s. and 12s. costs for selling adulterated baking powder. Dr. Raymond Ross, analyst of Worcester, said that the samples he analysed contained 20 per cent. of alum. Instead of alum the powder should have contained tartaric acid. Under no circumstances should alum have been used, and the only reason for using it was that it was twenty times cheaper than tartaric acid. Tartaric acid was non-injurious, but alum was distinctly dangerous to the digestive organs. The magistrates expressed the hope that grocers would see that in future they had the names of the makers on the covers of the baking powders they sold.

## Books Received.

THE SALE OF FOOD AND DRUGS ACTS, by Sir William J. Bell, LL.D., and H. S. Scrivener, M.A., Barristers-at-Law. Publishers, Shaw and Sons, Fetter Lane, London, E.C. Price 7s. 6d.

THIS is the third edition of Bell and Scrivener's standard work and has been enlarged by more than 100 pages. The statutes, cases, and all the acts relating to adulteration are given, also notes on the commoner forms of adulteration. The authors are in error in their remarks about Yeast on p. 139. They say "It is the common practice to mix a certain proportion of starch with yeast as a preservative, and the presence of such starch is not regarded as an adulteration."

There have been several prosecutions for yeast adulteration—thus, "At Auckland, on May 31st, 1897, John Rawe, grocer, Toft Hill, near Bishop Auckland, was charged with selling adulterated yeast. Defendant pleaded not guilty. Mr. Thompson said he visited the defendant's premises on May 7th, and purchased three-quarters of a

pound of yeast. He produced a certificate from the County Analyst in which it was stated that the yeast was adulterated with 28 per cent. of potato farina, which was not a natural constituent of yeast. Defendant, in reply to a question from the magistrates, said he sold the yeast as it came to him from the merchant in Hull with whom he dealt. Defendant was fined 10s., including costs." *Food and Sanitation*, June 19th, 1897. It is true that in consequence of the decision, James v. Jones, in which Justice Hawkins held baking powder was not an article of food by reason of its not being eaten as such, prosecutions for yeast adulteration lapsed, it being thought that as yeast was not eaten as a food this absurd judgment applied to it also. The addition of starch to yeast is, however, now clearly an adulteration.

An admirable index and table of cases add greatly to the value of the book, which should be in the hands of everyone concerned with the working of the Acts dealt with.



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## Food and Sanitation.

SATURDAY, MAY 26, 1900.

### The Composition and Physiological Effects of Beef Broth.

In a communication recently made to the Paris Academy of Medicine, and dealing with the physiological action of meat preparations, Armand Gautier (*Bulletin médical*) reports his investigation on the chemical compo-

sition and physiological effects of beef broth. A kilogram of lean beef boiled, with gentle heat and for some time, with three times its weight of spring water yields from two to two and a half litres of bouillon. When thus prepared, it leaves a dry residue weighing from 15 to 23 grams. This residue is composed of:

Albuminoid substances, 6 to 9.

Kreatin bases, 0.9.

Xanthin bases, 0.25.

Inosinic acid, 0.04.

Taurin, etc., 0.12.

Inosite and glycogen, 1.40.

Lactic acid, 0.20.

Colouring, odoriferous, and other undetermined matter, 4.60.

Soluble mineral salts, 3.76.

Insoluble mineral salts, 0.38.

The total amount of mineral salts—4.14 grams—includes 2.60 grams of potassium acid phosphate ( $\text{PO}_4\text{K}_2\text{H}_2$ ), 0.70 of potassium chlorid, and smaller quantities of calcium phosphate, magnesium, iron, and a little sodium chlorid.

If beef broth is made, as is done in most households, by adding kitchen salt (7 grams per liter) and vegetables (carrots and turnips, of each 40 grams, leek and celery, 20 grams), the dry residue per liter weighs 27.3 instead of 19.1 grams; that is, but 1 gram more, if we deduct the 7 grams of added salt. It follows from this that, contrary to what might have been thought, the common salt does not aid in dissolving meat in hot water, and that the vegetables furnish only one additional gram of dry extract per liter.

The conclusions drawn by Gautier from these data are the following:—On account of the albuminoid substances it contains; on account of its sapid and aromatic substances which act by stimulating the sense of taste and the secretion of the stomach; in virtue of its kreatin and xanthin bases which, in small doses, play, like caffein (which itself belongs to the xanthin group), the rôle of cardiac and muscular tonics; owing to its organic phosphorized derivatives of lecithin; owing, finally, to its assimilable soluble phosphates, well-made beef broth is at once a food properly so-called, a stomachic which excites the gastro-intestinal secretions, and a general tonic. This suffices to explain the vogue which the good beef broth of our housewives has always had—and deservedly so, whatever may have been the prevailing theories.



## Proceedings of the Departmental Committee on Food Preservatives.

(Continued from page 204.)

On May 7th, Professor Thorpe, F.R.S., in the chair.

Dr. Robert Hutchison, assistant physician at the London Hospital, said he had experimented on himself with boric acid and borax, and he had observed no bad effects. He should think the use of preservatives was in the interests of public health, because the amount of disease produced, especially in children, by allowing milk to go at all bad, was probably greater than the amount of disease produced by the use of preservatives. The maximum amount of preservatives that could be used should be fixed. Probably the ideal would be to have the milk carefully sterilised or pasteurised immediately after it was drawn, without the addition of any chemical preservative.

Dr. G. F. Still, of the Great Ormond Street Children's Hospital, said that no preservatives should be used in milk, if they could guarantee that the milk could be kept from decomposing otherwise. His experience had impressed him very strongly with the idea that a great many of the ailments of upper class infant children were due to the sterilisation and even so the boiling of the milk.

Dr. Hope, the medical officer of health for Liverpool, said the vast proportion of the milk sold in Liverpool was entirely free from any chemical preservative, which indicated that there was no necessity for its use, if due cleanliness and care were observed. The use of preservatives in butter, ham, bacon, pork, margarine, sausages, and so forth appeared to be extending; but he had not the same objection to their use in these articles as he had in milk, because the former were eaten by adults and people of stronger digestion, whereas the milk was of course largely taken by infants. It had been urged that larger doses of the chemical preservatives would be given in medicines that would be found in these foods; but there was a great difference between giving a dose of physic under certain diseased conditions of the human body and administering drugs at odd times with every meal and when they were not necessary. Colouring matters were very often used merely for ornamental purposes, and then they were probably harmless, but sometimes they were used to conceal dirt. Dirty rice, for example, coloured with a yellow coal-tar dye, was used to make what were called "egg powders," some of which had no connection whatever with eggs. Cases had come to his knowledge where poor and ignorant people had purchased these egg powders under the impression that they were complete substitutes for eggs, and with that idea had actually fed their children upon them. Where colouring matters and preservatives were used, a label should be put upon the article stating the nature of the material used, the quantity of it, and the date on which the material was added. Owing to the success of the system in St. Helens, the corporation of Liverpool were establishing depôts in their city for the sale and distribution of pure humanised milk, specially prepared for young infants. Dr. E. H. Starling, who had been deputed on behalf of the Royal College of Surgeons to give evidence, said he would absolutely prohibit the use of formalin as a preservative, and he was also inclined to prohibit the use of salicylic acid for the same purpose. Boric acid and borax were certainly less harmful, and from the point of view of an experiment carried out on a healthy animal for a few days or a few weeks, one could not say much against them; but, judging by the medical evidence (of which his knowledge was second-hand, or dated some years back) he should object to their use in milk.

The Committee met again on May 8th, Sir Herbert Maxwell, M.P., in the chair.

Mr. Carl W. Sorensen, consulting expert to the Manchester Pure Milk Supply Company (Limited) and late chief dairy expert to the New Zealand Government, said that when he left the colony two-thirds of the butter which was sent over to this country from New Zealand was not treated with preservatives, but he had reason to think there had been an increase in the use of them since. If one shipper could do without preservatives, all could do without; and he had felt when chief dairy expert that they ought to be very chary of risking their reputation for purity for the sake of a disputed, and in any case trifling, immediate gain, and he had reported to his Government to that effect. The Milk Supply Company of Copenhagen was started by a relative of his some 21 years ago, with the idea of supplying that city with an absolutely pure supply of milk at the lowest possible price, and during all those years not one ounce of preservatives had ever been used in any of the milk, cream, or any other dairy products sold by the company. This experiment was now being tried in Manchester. By having only one delivery of milk per day, as against the two deliveries commonly practised in this country, there was a reduction in the cost of delivery which enabled more money to be spent on getting pure milk from healthy cows and in enforcing precautions as to cleanliness both on the farms and in the course of distribution, without enhancing the cost of the milk. The milk was cooled with ice or snow as soon as it was drawn from the cow. Last winter all their farmers had succeeded in obtaining a supply of natural ice or snow to be used during the summer. It was stored under peat moss or sawdust or other insulating material, and was taken out from day to day as required. This could be done for about 2s. 6d. to 5s. per ton; and in this country it was possible in nine years out of ten. In Copenhagen the retail price of milk was 2½d. per quart, and in Manchester his company had not found it necessary to raise the price above 3½d. per quart. They were entirely opposed to Pasteurizing the milk, as they had medically advised that it was injurious to very young children or invalids who were fed on it.

Dr. A. R. Anderson, surgeon to the General Hospital, Nottingham, said that in his opinion the use of boric acid as a milk preservative should be prohibited.

Mr. Philip Schidrowitz, Fellow of the Chemical Society, said he had been making some experiments with regard to the refrigeration of milk, and, though he did not wish to give any opinion as to whether preservatives were harmful or not, he thought his experiments tended to show that, if milk was properly refrigerated—whether that was practically possible or not he did not wish to say—there was no need for the use of preservatives. Milk taken under rational conditions from healthy cows, if cooled after milking to 10 or 11 degrees centigrade, and subsequently stored at the moderate temperature of 15 degrees centigrade—might be kept sweet for about 60 hours after milking. He believed that a regulation providing for the adequate cooling of milk immediately after milking, down to, say, 15 degrees centigrade, would be of very great benefit. Since the Beer Material Committee sat he thought the use of salicylic acid in beer had been decreasing and the use of sulphides increasing.

Mr. Henry Symons, cider manufacturer, said he believed some of the best makers of ciders used preservatives. Their use was desirable under certain conditions and certainly ought not to be prohibited; the quantities used should, however, be limited.

The Committee again adjourned.



The Committee met again on May 14th, Sir Herbert Maxwell, Bart., M.P., in the Chair.

Dr. G. Vivian Poore said preservatives ought not to be added to food unless the nature of the preservative and the quantity added were fully stated. Besides the positive harmfulness of certain preservatives, the negative side of the question was most important, as there ought to be no risk of mistaking preserved food for fresh food.

Sir T. Lauder Brunton, M.D., said he had come to the general conclusion that it was almost impossible to prevent the use of preservatives, but that their use should be strictly regulated. If preservatives were not used, there was a risk of injury from eating food which was decomposing, but, on the other hand, if the preservatives were used in too large a quantity, harm might be done through the preservatives themselves. He suggested that an authority should be constituted, as recommended by the Select Committee on Food Products Adulteration, "who should act as a Court of Reference upon scientific and other questions arising under the Acts, and who should be empowered at their discretion to prescribe standards and limits of the quality and purity of food." Upon such an authority the Royal College of Physicians in particular should be represented. In order to procure the necessary data it would be necessary to insist upon the presence, nature, and proportion of the preservative in

each article of food being notified by label or otherwise. It had been said, as an objection to such a declaration, that it would interfere with trade; but it seemed to him that it would not do so in the very least. All that would require to be necessary would be that each article should bear a label stating that it contained such and such a preservative in the proportion licensed or approved of by the authority which was proposed to be constituted. People would then take the article readily enough, and there would be no interference with the trade, but, on the other hand, there would be a great security for the consumer.

Mr. Frederick Womack, Lecturer, St. Bartholomew's Hospital, said the staff of St. Bartholomew's generally considered there was an objection to the presence of preservatives in foodstuffs.

Dr. W. D. Halliburton, Professor of Physiology, King's College, suggested that if the Committee did not see their way to recommend the absolute prohibition of antiseptic materials in food, a label, or something of that nature, should indicate what had been used. It was best to avoid the use of artificial dyes, which were quite unnecessary, and the public should be taught that rich milk and rich butter need not necessarily have a bright yellow tint.

The Committee again ajourned.

## Weights and Measures Notes.

### Reading Weights and Measures.

ONE set of avoirdupois and one ditto apothecaries' weights, belonging to the local standards of the county, have been re-verified by the Board of Trade, who, however, suggest that as the scale beams sent therewith are of a very old pattern (box ends), and unfit for modern verification purposes, that new ones of a modern and more reliable form should be provided, in accordance with the provisions of section 7 of the Weights and Measures Act, 1889. Messrs. Doyle and Son, of London, who carried out the work of adjusting the standard weights, have submitted an estimate for the supply of beams and scales of the design approved of by the Board of Trade, which the Committee have accepted, at a cost of £20 5s. for three beams, according to the Board of Trade pattern. The old beams have been in use since 1857. The report was adopted.

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### City of London Weights and Measures.

THE annual report of the Chief Inspector of Weights and Measures (Mr. A. J. Street) shows that during last year 6,815 inspections were made, as compared with 5,851 in the previous year, and 6,273 in 1897. In all 36,586 weights, 25,586 measures, 8,873 weighing machines, 272 coal vans, and 180 bread vans were inspected. In the stamping department 60,103 weights, 171,285 measures, and 4,544 weighing machines were dealt with, the total being 307,693, as against a total of 292,132 in the previous year. The fees received for stamping amounted to £1,264, that sum being £78 8s. 6d. more than in 1898. The Committee, in referring to the action of various local authorities in granting a rebate on the fees for stamping publicans' glass measures, and also to the action of the London County Council in substituting for fees a charge of 4½d. per dozen for repacking, state that the Board of Trade has been urged to take some action in the matter. It is suggested in the report that the following changes should be made in connection with the Weights and Measures Act: That authorities should have

power to inspect Post Office scales, and to check the weight of made-up parcels; and that there should be a statutory scale of fees for the stamping of metric measures.

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### Lincoln and Weights and Measures.

MR. MANSELL, Chief Constable, reports that during the twelve months ending March 31st, 1900, 1,233 shops and places liable to inspection have been visited by the Inspector, and 22,841 weights, measures and weighing instruments found therein examined and tested, of which number 22,431 were found correct, and cautions given to 99 persons in respect to slight inaccuracies. The number of shops and places in the city liable to inspection is about 1,360. Proceedings have been taken against eight persons during the year under the Act, resulting in convictions in each case, with fines and costs amounting to £3 3s. 6d. At the office during the year 15,984 weights, measures and weighing instruments have been tested, of which number 448 were rejected. Fees received and paid to City Treasurer:—For stamping £95 7s. 11d., for adjusting £14 14s. 3d. Total £110 2s. 2d. Expenses during the year:—Inspector's salary £113 4s., Inspector's clothing £4 18s., ironmonger £1 13s. 3d., Corporation for gas, £1 2s. 9d., printer £2 5s. Total £123 3s.

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### Weights and Measures at Walsall.

THE annual report of Inspector John Whitworth (weights and measures department, Walsall), shows that no fewer than 1,141 visits had been made during the past year to the premises in the town for testing, weighing, and measuring the appliances used in trade. Legal proceedings had been taken against three persons, the fines amounting to 15s., and the costs to £1 4s. 6d. Five persons had been proceeded against for infringing the Bread Act, and dealers had been fined 10s. and £1 15s. costs. A stallholder likewise had been fined 10s. and costs for selling goods which were deficient in weight. The report is well compiled, and worked out in complete detail.



## Official Reports and Notes.

### A Pushing Analyst.

A LONG discussion took place at a meeting of Dunfermline Burgh Commissioners, on May 14th, upon a recommendation by the Sanitary Committee that the appointment of Mr. Ivison Macadam, Edinburgh, as public analyst for the burgh be terminated, and that Mr. G. D. Macdougald, Dundee, be appointed in his stead. Mr. Macdougald, it was stated, had applied for the appointment, and had offered to perform the duties for lower fees than those charged by Mr. Macadam, who, on being communicated with, refused to make any reduction. The conduct of Mr. Macdougald was severely animadverted upon, members speaking of it as unprofessional. Bailie Macbeth said that the committee might as well have considered an application from a legal gentleman in Dunfermline to be appointed as clerk to the Commissioners or as Burgh Chamberlain at a reduced salary. If Mr. Macdougald did not know that the burgh had a public analyst, he ought to have known. The office was not open for public competition, and even although there was to be a saving of a few pounds a year, he would not give the appointment to Mr. Macdougald. It having been stated that Mr. Macadam's appointment did not expire until November, the recommendation was set aside meantime.

Mr. Macdougald takes exception to the report, and in *The Scotsman* of May 18th, says:—

“Laboratory of City Analyst,  
Dundee, May 17th, 1900.

“SIR,—In your issue of 15th inst., under the above heading, you publish what purports to be a report of a meeting of the Dunfermline Burgh Commissioners held on 14th inst. This paragraph does not give a reasonably fair account of what took place, and is most injurious to me. Some of the singularly unfortunate and defamatory statements of certain members of the Dunfermline Commission were denied at the meeting by those

who have taken the trouble to make themselves conversant with the circumstances as they arose. Your paragraph is mostly a summary of the views of Bailie Macbeth, who is, I may remark, hopelessly wrong. Allow me to say that I did not apply for the position in the way indicated in your paragraph. I wrote the Town Clerk of Dunfermline a letter of enquiry, asking if the Commissioners contemplated an appointment, and my letter cannot be twisted or construed into anything that will support Bailie Macbeth's views. It is also not correct to say that I offered to perform the duties at lower fees than Mr. Ivison Macadam. —I am, &c.,  
G. D. MACDOUGALD.”

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### Lincoln and Adulteration.

UNDER the Food and Drugs Act the Inspector has procured 36 samples during the year, only one of which number was certified as adulterated, and proceedings were taken before the magistrates.

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### Inspection of Food and Drugs in Aberdeen.

AT A MEETING of the Public Health Committee of the Aberdeen Town Council held within the Council Chamber, Dr. Beveridge, the convener, presiding, it was stated that the inspector of the Board of Agriculture had put forward the necessity of making a more extensive analysis under the Food and Drugs Act than had hitherto been done. Mr. Kenneth Cameron, sanitary inspector, explained that if such an arrangement were to be carried out, it would be necessary to appoint an additional assistant. He further explained that if such an assistant were appointed he would be of considerable service in relieving the work of inspection of nuisances, a department which at present suffered from being understaffed. It was agreed to recommend the council that such an assistant should be appointed at a salary of 28s. per week.

## Notes for Dairymen.

### Separator Slime : Its Nature and Constitution.

THE practical dairyer of to-day who has to do with separators knows fully well what filth is got out of apparently clean milk during the process of separation. That the majority of this filth, commonly known as “separator slime,” “mud,” “putrid slime,” etc., should not be present in milk is doubtless a fact; but, at the same time, in however cleanly a fashion the milk is obtained (strict regard being given to clean udders, straining, etc.), there is always more or less deposit, varying considerably in colour, consistency, and smell. The average consumer of pure new milk, fresh from the cow, if shown the dirt taken out of the self-same “pure” milk by the separator, would be astonished, and on learning the causes and also the remedies for same, would only take cleaned milk in future. Separator slime has as its main constituent a substance, casein, an albumoid body present to a considerable extent in milk. This substance, however, does not give to the slime its colour, it being itself white, colour being solely due to dirt derived from the milk; the larger the proportion present the darker and blacker-looking will the slime be. Casein, as perhaps may be known, is present in ordinary milk in two states, namely, in suspension, held up, or so to speak, floating

and also in solution. This is easily proved by filtering milk through unglazed porcelain or a Pasteur filter, the substance left behind being the casein which was held in suspension. The following figures by Duclaux ably illustrate this fact:—

ANALYSIS OF MILK—PER CENT.—In suspension: Fat, 2.75; casein, 2.72; phosphate of lime, .21. In solution: Sugar (lactose), 5.38; casein, .55; phosphate of lime, .14; salts, .35. Suspended casein, it will be seen, amounts to about five times as much as that in solution. Now take the composition of the slime itself, and compare with that of milk:—

AVERAGE COMPOSITION—PER CENT. (FLEISCHMANN).—Water, 67.3; fat, 1.1; albuminoid matter, 25.9; other organic matter, 2.1; ash, 3.6; total, 100.0. An analysis of slime by H. Droop Richmond, published in the *Analyst* does not differ from Fleischmann's average very materially: Fat, 1.3; milk solids (calculated), 7.2; ash (including 1.28 phosphoric acid), 3.2 per cent. Solids, 29.2.

Contrasting these figures with those above given for milk, firstly, it will be observed that milk, sugar, and also the major portion of the salts which are in solution do not figure in slime, but all those substances which occur in suspension are slime constituents in certain proportions,



Now the principles of separation bear directly upon the composition of slime. For instance, the separation of cream from milk by the separator is based upon the principle that, with liquids submitted to centrifugal force, the heavier portions fly outwards or to the outside of the bowl, while the lighter portions make for the centre, and by an arrangement are conducted up and out through the cream spout. Gravity, that law which causes milk to throw up its cream when left quiet, is represented, multiplied several hundred fold in the separator, or that which takes hours in the natural way to perform is completed by the separator in a few minutes. As the heavier portions fly to the outside, it is for that reason that we get the slime containing the heavy impurities, etc., there congregated, dirt, sand, etc., being represented in the analysis by ash (present in a very large proportion, 3.6 per cent.), and the casein and gluey matter which entangles some of the globules of fat. So much for the chemical composition; now it only requires a little thought to guard against many of the impurities originating from external sources. Beginning with the milking itself, cows stabled generally get their udders more or less covered with dung, so that the milker should guard against minute particles of dung, dandruff, and hairs dropping into the pail. That the milker's hands should be washed before starting work, hardly requires mention. The atmosphere may also be dusty, and hay seeds and bits of straw often fall into the pail. As to whether milking with wet or dry hands affects the quantity of dirt in milk it is difficult to say. After leaving the byre, milk, of course, is strained, but this is often done in a haphazard fashion, and at the best of times, as performed through butter-muslin, is only of value to remove the visible dirt. Should separator slime be tested, it will be found to contain simply hosts of bacteria which get there in enormous proportions, as they themselves are also affected by gravity. Yeasts and fungi of various descriptions can also be picked out. Bacteriologists make use of this knowledge (and to them it is a wonderful saving) when trying to isolate some pernicious germs, such, for instance, as those producing various diseases, as tuberculosis, typhoid fever, etc., etc. If present at all originally in the milk, these are almost sure to be found concentrated in the slime. A curious illustration of the bad effects on animals feeding on slime I have observed in the case of cats, a couple of which almost dwindled to skeletons under its influence. Also another most valuable addition to the efficacy of Pasteurism was demonstrated, inasmuch as kittens fed on slime, the milk from which it was obtained being Pasteurised to 160 degs. Fahr. before separating, seemed to grow well and

apparently thrive on it. It may be said the above experiments were unintentional, but were noted in a dairy where cats ate and clamoured for slime in preference to any other dairy product. From this it may be taken that the proper place for slime is not the swill-tub, but the fire. In the case of power separators the densest slime collects inside the tubular shaft holding discs.

**PROPORTION OF SLIME FROM MILK** will vary a little as to the acidity of the milk, cleanliness observed in handling, and also temperature at which separated. Under ordinary conditions, the proportion is very constant. Fleischmann gives the figures as from .05 to .13 per cent. of the milk passed through the separator. Other experimenters have fixed on .08 per cent., which, from a series of weighings, I have found to be the proportion, in practice, say  $1\frac{1}{2}$  ozs. of slime from about 30 gallons of milk. It may be taken under normal conditions and everyday working that the amount yielded is .03 per cent. of the milk passed through the separators, which is more or less fixed proportion. Pasteurisation of the milk causes a slight increase. Abnormal conditions of the cow give a large increase; for instance, after calving the milk contains large quantities of epithelium cells which give a substantial increase. Again, illnesses of various kinds cause destruction of body and udder tissue, etc., in which case the slime from any particular cow's milk may rise to  $\frac{1}{4}$  per cent.

**COLOUR.**—As to colour, grey is generally about the tinge. I have noticed very curious slimes at times, such as bright red, which has probably been caused by the rupture of some tiny blood vessels of the udder, and which, though not of sufficient quantity to colour milk to any extent, showed up plainly in the slime. A yellow tinge is not uncommon when colostrum is found in the milk. If milk be badly tainted, you get a concentrated whiff or smell in the slime. If not cleaned, and the liquid poured out of the bowl, the slime will harden and become to all appearance like dirty glue, which it resembles in consistency; at the upper edges, where it is somewhat freer from dirt, it resembles gelatine by being somewhat transparent and yellow tinged. At the present time the only known method of cleaning milk of slime, which is to be sold as milk, is to submit it to centrifugal force. Filtering through cotton-wool filter-bags is the next best system, but very far from being so efficacious. One firm of separator makers have a special bowl which can be fitted to machines which can be used to clean milk without separating it. Of course, cleaning milk for sale (which, by the way, is done largely in some of the American States) can be done by simply separating it and remixing milk and cream.—C. W. T. D., in the *Agricultural Gazette*.

## Cold Storage Notes.

### Grocers and Cold Storage and Preservatives.

MR. S. SHIRLEY, addressing the Federation of Grocers' Associations, said on May 4th:—"The Commission which was inquiring into the use of preservatives was also a very important matter. Action was being taken, as they were aware, in various parts of the country with respect to the goods in which preservatives were used, and in many goods no doubt wisely used, for the preservation of articles of food which would in many cases become spoilt or perish, and become unsuitable as food if some sort of preservative were not used with them. He mentioned at the Birmingham meeting that cold storage was undoubtedly a very valuable assistance to them as traders, but on the other hand it did not do away with the necessity altogether for preservatives. Butter, for instance, after it came from cold storage would not stand the test of a warm shop for any length of time, but would depreciate very rapidly after coming from cold storage, and particularly if it had been

there for some time. He thought the reply which Mr. Long made in the House of Commons a few weeks ago to an inquiry on this question of preservatives, if read between the lines, was to the effect that it would be well if prosecutions were stayed until that committee had made its report. Mr. Long did not put it in those words that it would not be desirable, but he put it in such a form that certainly it gave to the world the impression that he did not desire that prosecutions should go on these lines until the question had been settled by the Committee."

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### Refrigerating Plant for Cape Town.

THE Linde British Refrigerating Company, Ltd., have received an order for a 50-ton refrigerating plant for the South African Cold Storage and Supply Company, Ltd., Cape Town.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

THE case of *Tyler v. Kingham and Son*, which came before Justices Ridley and Bigham, on May 18th, raised the point whether or not it was a condition precedent to any prosecution being brought under the Margarine Act that there should first be an analysis in the form set out in the Sale of Food and Drugs Act, 1875. Mr. Lewis Richards appeared for the appellant, an Inspector of Weights and Measures for the County of Middlesex, and Mr. Bonsey represented the respondents, who are wholesale grocers. Mr. Richards said that on September 21st last the appellant in the exercise of his duties called at the shop of a man named Longstreet, a retail grocer at Brentwood, and there purchased with the intention of submitting the same for analysis a quantity of butter. He did all that was necessary under Section 14, viz., dividing it into three parts. The analyst made a report in which he stated that the butter contained 10 per cent. of foreign fat. Proceedings were taken under Section 6 of the Act of 1875, and a summons was also taken out under Section 6 of the Margarine Act, 1887. The Magistrates found as a fact that the article was not butter, but margarine; that it had been purchased by Longstreet from Kingham and Son with a warranty, and they dismissed the summons. Upon that the appellant, on October 26th, applied for a summons against Kingham and Son, under Section 6 of the Margarine Act, and on the hearing of the summons it was admitted that the article from which the sample had been taken was sold by Kingham to Longstreet, and that it was not butter, but margarine, and the only thing that saved Longstreet was the fact that he was able to produce a written warranty from the respondents. The special case stated that at the hearing of the summons against respondents, the facts having been proved or admitted, the appellant offered in evidence the certificate of the public analyst which had been used in the prosecution of Longstreet, but respondents objected that it was not admissible as evidence against them. Respondents did not require the analyst to be called as a witness, but intended the summons should be dismissed on the ground that it being in respect of a sale to Longstreet, the appellant was not a competent prosecutor. The substantial point was whether or not it was a condition precedent to any prosecution being brought under the Margarine Act that there should first be an analysis in the form set out in the Sale of Food and Drugs Act, 1875. He contended the analysis used in Longstreet's case could be used as evidence in this prosecution, but the Magistrates held the Act required that samples should be specially taken in each case for the purpose of each prosecution, and in the form prescribed by Section 14. The point appeared to be whether or not any proceedings could be taken under the Margarine Act without the informant having complied with the provisions of Section 14 of the Sale of Food Act of 1875.

Mr. Justice Ridley said there were two things in question—the adulteration, and the fact that if you sell a thing as margarine the description shall be printed on it in a certain size.

Mr. Richards submitted that in taking proceedings under this section it was not necessary to have an analysis taken.

Mr. Justice Ridley said that they must find out if it is margarine. It was sold as butter, and they must find out what it was before they could say it was margarine.

Mr. Richards admitted there was nothing on the tub but the words "Pure Butter," and the magistrates found it was margarine. He contended that the form prescribed by Section 14 was only necessary where it was clearly the intention of the purchaser to have the article analysed. By this case it was perfectly clear that Longstreet, who was the real purchaser from the respondents, did not buy the article with the intention of having it analysed, and Longstreet did not act as the agent of the respondent in re-selling.

Mr. Justice Bigham said he could not find it stated that the justices found this to be margarine. Here were criminal proceedings taken against Kinghams, who were alleged to have sold margarine without a description on it, in accordance with the Act. One of the things appellant had to show first was that they sold margarine. Then he must show that having sold margarine, they did not sell it with the description required by the Act of Parliament. Appellant did not show that they sold margarine, by showing that someone else did, or by showing that in proceedings against someone else, with which Kinghams had nothing to do, proof was given that the stuff was margarine. When he attempted to put in the analysis used in that case, Kinghams very naturally objected that they had nothing to do with that analysis. The Magistrates said he must analyse the article in question for the purpose of this prosecution.

Mr. Richards replied the fact that this was margarine was admitted, also the fact that the sample was taken from the tub sold to the man Longstreet by the present respondents.

Mr. Justice Bigham said the Magistrates did not refer to it as margarine, they referred to it as "the article." They found that some other justices in another prosecution had found it was margarine. When the old analysis was tendered in evidence, the respondents naturally said they had nothing to do with that analysis, as it was not taken with reference to them, and if appellant wanted to take proceedings against them, he must do it in the ordinary and proper way by taking samples and giving them notice that he intended to have them analysed.

Mr. Richards said that the article here was not purchased with the intention of having it analysed.

Counsel having quoted one or two authorities, Mr. Justice Ridley said they did not think it necessary to hear Mr. Bonsey. In the proceedings against Longstreet he escaped conviction, because he showed that he bought the article with a written warranty. Fresh proceedings were then taken against Kinghams, from whom Longstreet bought, and unless there was something in the Act of Parliament which enabled a document which was used as evidence in the first case to be used as evidence in proceedings against other persons, it was clear it could not be used on the second occasion. It did not follow that a document used in the first case would apply to the proceedings in the second case. He thought they were asked to put too large a construction on the section, and therefore the appeal must be dismissed.

Mr. Justice Bigham said he was of the same opinion. The question was whether there was any evidence before the magistrates that the article complained of was margarine. The only evidence offered was an analysis, which had been procured for the purpose of the prosecution of Longstreet, who on some previous occasion, it was alleged, had been selling this stuff as butter; but in his



view it was not evidence against anyone but Longstreet, and the magistrates rightly upheld the objection that it could not be used against Kinghams. They were entitled to require evidence that the article they had sold was margarine; they were entitled that the case against them should be properly and strictly proved, and in his opinion there was no proof that this was margarine.

Mr. Bonsey said he understood their lordships did not express any opinion on the other important point raised in the case, whether proceedings can be instituted by any person other than the purchaser. There was a great deal to be argued on that point.

Mr. Justice Ridley said the point had not been argued, therefore they could give no decision.

Appeal dismissed with costs.

**GOLDEN SYRUP PROSECUTION: MR. SCOTT ELDER GETS AT THE REAL CULPRITS.**—Messrs. F. H. Brown and Co., 85 and 89, Crown Point Road, Glasgow, were summoned at Auckland, on May 14th, for selling golden syrup by a false declaration. Mr. B. Scott Elder, Chief Food and Drugs' Inspector, under the Durham, County Council, prosecuted, and Mr. J. G. Thomlinson, Bishop Auckland, defended. Mr. B. Scott Elder, in opening the case, said the syrup in question was obtained by himself at the colliery village of Trimdon, at a branch establishment of Mr. Anthony Hall, Bishop Auckland, but the analysis were of such a serious character that he had deemed it his duty to trace it to the manufacturers. This he had done. The tin which he brought before the notice of the magistrates had a label right round, and on it were the words "Imperial Brand Golden Syrup," on one side, and on another "Made from Pure Cane." The latter words were printed in two places on the label. Neither of these statements were true, for an analysis showed the syrup to contain no less than 80 per cent. of glucose syrup and only 20 per cent. of golden syrup. There was a small label on the top of the tin, stating that the syrup was made from pure cane sugar, with other ingredients, but this, he contended, in no way exonerated the defendants from blame in causing the large label, and the label proper, to be placed on the tin. It was, as he had said, one of the worst cases he had had to bring before any Bench of Magistrates, and he hoped the Bench would inflict a full penalty and assist the County Council in putting an end to fraudulent trading which was not at all times easy to trace. W. A. Sellers, in the employ of Mr. Anthony Hall, Bishop Auckland, spoke to this firm receiving the consignment of syrup in question and to a portion of it being sent to the Trimdon branch. He also produced the invoice. John Jas. Theakstone said he served Mr. Scott Elder with the syrup, and was told it was for purposes of analysis, the customary division being made. For the defence, Mr. J. G. Thomlinson said whilst he admitted the facts he must submit that there was no evidence of fraudulent intent in the case. The real question at issue was whether there had been any sale to the prejudice of the public, and whether the defendants had committed a fraudulent sale. And whilst the question of a sale to the prejudice of the public rested upon the fact as to whether the article was really adulterated, it had been clearly laid down by Act of Parliament that if a label were placed upon the tin containing the article and notifying the public that it was, say a syrup which contained other healthful ingredients, there was no offence. That was what had been done in this case, for on the top of the tin the defendants caused to be placed a label, easily to be seen, to the effect that this was golden syrup with other healthful ingredients. How, then, could it be said that this was a false label or a false description of the contents of the tin? There was no evidence to point to an adulterated article being placed before the public at the full or original price. In this case the syrup was sold to Mr. Hall at 16s. 6d. per hundredweight, and the price of golden syrup was from 20s. to 23s. per hundredweight. Nor had it been proved

that glucose was a harmful ingredient, and their worships must remember that there must be adulteration to a certain extent to prevent crystallisation. He therefore asked the Bench to dismiss the case. If, however, they decided to convict he asked them to be as lenient as possible, especially as the defendants did not now manufacture this particular kind of syrup. Replying upon a point of law, Mr. Scott Elder said the additional small label which the defendants caused to be placed on the top of the tin was not material to the point. It was a false description to say that it was "Imperial Brand Golden Syrup," and it was a false description to say that it was "made from pure cane." These were the leading points in his case. The Bench retired to consider their verdict, and returning Mr. R. Nelson (chairman) said it was a case in which they thought the full penalty should be inflicted. The defendant would therefore be fined £20 and costs.

At the Paisley Sheriff Court, William Galbraith, grocer, was fined 2s. 6d., with 25s. expenses, for having in his shop at 60 Back Sneddon, sold a 2-lb. tin of golden syrup, which, on analysis, was found to contain 21 per cent. of starch glucose. The point raised was this, while the article bore an intimation to the effect that the syrup was mixed, the intimation was obscured by an outer cover.—A similar charge was preferred against R. R. Douglas, 50, Love Street, the complaint setting forth that the syrup in this case contained 71 per cent. After evidence the Sheriff said that the inspector's attention had been drawn to the fact that the article was a mixture when purchased, and, therefore, he was not prejudiced. At the same time he advised the manufacturers to alter their label, so that the intimation would be more distinct. An agent intimated that this had been done, and the case was dismissed.—A complaint against Robert Nicol, grocer, was withdrawn.

**MILK PROSECUTIONS.**—Samuel Hullah, of Stamps Farm, Darley, near Ripley, was summoned at the Leeds Police Court, on May 18th, before the Stipendiary Magistrate (Mr. C. M. Atkinson), on a charge of having sold by contract to the Leeds Liberal Club, on three occasions, milk which was certified to contain  $7\frac{1}{2}$  per cent., 9 per cent., and  $10\frac{1}{2}$  per cent. respectively of added water. Mr. C. C. Jolliffe, Deputy Town Clerk, prosecuted, and Inspector W. B. Walker, who had taken samples from defendant's can at Leeds Station, proved the case. Defendant said the milk was supplied to him by a neighbouring farmer, and he was very positive that this neighbour would not water the milk. Defendant, who was fined 40s. and costs, or seven days, on the first summons, and 20s. and costs, or seven days, in each of the other cases, remarked that he would never send another can of milk to Leeds unlocked.

At Brighton, on May 18th, Henry Burton, of 110, Lewes Road, was summoned for selling by the hands of his servant, half-a-pint of new milk which was adulterated with not less than 10 per cent. of added water. Defendant stated that he did not know there was water in the milk, or he would not have sold it. He only had two quarts of milk. Mr. Talbot (Deputy Town Clerk) said defendant had been engaged in selling milk for many years, and had never been convicted. The milk was bought of a young person serving in defendant's shop by a lad, who acted on the instruction of Sanitary Inspector Cuckney. Defendant had been in business for 50 years, and had a small general shop.—Fined 10s. and costs.

At Belfast, on May 17th, Mr. Garrett Nagle, R.M., delivered judgment in the case brought recently by the Belfast Board of Guardians against William Chapman, Joy Hill, Dunmurry, for having sold milk to the Union adulterated with 10.35 per cent. of added water, on the 19th March last. This was a second summons for the 21st of the same month. Mr. Wm. Harper appeared for the Guardians. Mr. Jos. Donnelly (for Mr. McGonigal) represented the defendant. In giving the decision of the Court, Mr. Nagle said—"The defendant in this case is Mr. Chapman, who, under the terms of this contract, was to



supply sweet milk to the Belfast Board of Guardians. On the 19th March, in pursuance of this contract, in the ordinary course his servant at five o'clock in the evening delivered a certain quantity at the Union workhouse. Samples of that milk were taken, transmitted to the public analyst, and, according to the analyst's certificate, the samples contained 10·35 per cent. of added water. These were the facts, and the facts were not controverted. The only question which was raised was that the defendant on the date of which this milk was delivered was in the County Courthouse, where proceedings in bankruptcy were being taken against him. At four o'clock in the afternoon—that is, an hour before the milk was actually delivered, he was adjudicated a bankrupt. The contention of the defendant was this, that under the adjudication in bankruptcy all his property, including the benefit which accrued to him under the contract, passed to the official assignee in bankruptcy; that, therefore, he was not liable, and that he was not the seller. But it was also an admitted fact that it was not until seven o'clock in the evening that the messenger, acting on behalf of the official assignee in bankruptcy, went to this man's premises and took possession of all his property, in the name of the official assignee. I am very far from saying that there is not a very nice question of law involved. In the opinion of the Court the defendant, Wm. Chapman, at the time that this delivery of the milk took place, must be held to be the seller of the milk, and as such—the milk not being of the nature, substance and quality demanded by the purchaser, is liable under the statute. This is the second offence of this kind, and under ordinary circumstances the penalty which the Court would now impose would be very much increased. But the magistrates in measuring the penalty may reasonably take into account the unfortunate financial position in which the defendant finds himself owing to his bankruptcy. The penalty which they will impose in the present case will be similar to that which the magistrates imposed in the last case—£20. Mr. Harper said there was another case against the same party, but as the summons was for a subsequent date he would not proceed with it, on the ground that the entire of the defendant's property was then vested, and was in possession of the official assignee. He thought that Justice had been sufficiently satisfied with the judgment in the present case. The second summons was then withdrawn. Messrs. Ward, McLorinan and Gibson, Justices, who occupied seats on the bench during the delivery concurred.

At Braintree Petty Sessions, Mr. John E. Tabor, J.P., of Bovingdon Hall, Bocking, was summoned under the Food and Drugs Act, charged with selling milk, which was not of the substance and nature demanded. Mr. W. P. Ricketts, of London, defended. Mr. Thomas Elsey, inspector, proved taking a sample of the milk supplied by the defendant to the Braintree Workhouse on April 5th, which the public analyst had certified to contain six per cent. of water. Evidence was given to prove that the milk was in no way tampered with from the time it left the cow to the time it was delivered at the Workhouse, where the sample was taken. Mr. Ricketts said as the sample was taken on the 5th April, and the analyst's report not received till the 24th, it was probable that delay had occurred in the analysis, and in that case the solids would become less, and the amount of water greater. He pointed out that in March and April, when there was very little green food for cattle, milk was liable to be of a lower quality than at other times of the year. In London, he said, magistrates refused to convict in cases where the percentage of water was not more than six per cent. The Bench were satisfied no adulteration had taken place and dismissed the case.

JAM PROSECUTIONS.—At Durham, on May 16th, Messrs. George Holmes and Alfred J. Richmond, of Darlington, were summoned under the Food and Drugs Act in respect of a sample of bramble jam which was alleged to contain 25 per cent. of apple pulp. Mr. B. Scott Elder, county inspector, appeared to prosecute, and Mr. J. Mawson for the defendant. At the outset Mr. Mawson

stated that defendants were not satisfied with the certificate of analysis as produced. They proposed to send a sample of the jam to Somerset House for analysis, this proceeding being provided for under the Act, and he asked for the adjournment of the case until they had heard the result of that analysis. Mr. Scott Elder said the case was down for hearing the previous week, but was adjourned on application of defendants, the grounds being that they wanted to have a further analysis. He consented to an adjournment, but up to the present he had not received a certificate of the second analysis. Now they wished to send a sample to Somerset House. He could not understand their delay. He thought the Bench were entitled to some assurance from Mr. Mawson that the adulterated jam would be withheld from sale pending the receipt of the certificate from Somerset House. Mr. Mawson said he could not give an assurance without instructions for so doing from the defendants. He was, however, prepared to inform defendants of Mr. Scott Elder's suggestion. It was entirely a matter for defendant's, and if it was sold it was at their own risk. The hearing of the case was then adjourned for a fortnight.

Charles Bayer, of 31, Dadlax Road, Leyton, was summoned for being in possession of a number of tins of preserved fruit, which were bad and unfit for the food of man; and Benjamin Worsfold, of 96, Wellington Road, Bow, was summoned for selling the tins to Bayer. Mr. George Hay Young, in prosecuting on behalf of the Mile End Old Town Vestry, said on the 23rd April Inspector Twaites, sanitary inspector, paid a visit to 12, Old Church Road, Mile End, premises used by Bayer as a jam factory. That defendant was engaged making jam at the time. On the floor, within six feet of the boiling pan, were a number of tins of preserved fruit, all of which were blown, showing decomposition had set in. Bayer said he was going to make the fruit into jam samples to see how they would turn out. On the inspector opening some of the tins he admitted they were not good to eat. Bayer also admitted purchasing the tins from Worsfold, a person who it was well known got these sort of goods from tin dealers, and he added, "I should like to know who has given him away. He has been had several times." The goods were afterwards brought to that court, and an order for condemnation was made. Dr. Taylor proved examining the contents of the tins, which were bad and unfit for food. If made into jam the fruit would not be fit to eat. Eating such stuff might cause death, as had lately happened at a well-known hotel. With regard to Worsfold's case, when that defendant was seen he admitted sending an "old parcel of stuff" to Bayer. Mr. Bedford, who defended said no sale had taken place. Bayer was simply trying the goods to see if they were good. Mr. Mead said he was of opinion the tins of fruit were on the premises for the purpose of being prepared for sale, and were unsound. Mr. Young said Worsfold had been mixed up in other matters, and he received the goods from the merchants for manure. Mr. Mead, having cautioned defendants, fined each defendant £20 and £1 3s. costs, or in default of distress, one month's imprisonment.

UN SOUND FRUIT PROSECUTION.—Mr. Anderson, sanitary inspector for the Port of London, applied to Mr. Dickinson, at Thames Court, on May 18th, for an order to condemn fifty-two barrels of fruit pulp, which had been seized at the London Dock and had been brought to court in vans. After Mr. Dickinson, accompanied by Dr. Collingridge, medical officer of the Port Sanitary Authority of London, had inspected a number of the barrels, Dr. Collingridge stated that they contained gooseberry pulp, and were all rotten and unfit for food. The ownership had been repudiated by the consigner and consignee, and he asked that the fruit should be condemned. Mr. Dickinson made the order asked for.

SPIRIT PROSECUTION.—At Neath on May 20th, John Evans, of the Commercial Inn, was fined 10s. and costs for selling adulterated whisky, and James Hobbs, of the Victoria, 20s. and costs for a similar offence.



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# Food and Sanitation.

SATURDAY, JUNE 2, 1900.

## Dietetic and Hygienic Notes.

### The Principles of Manufacture and Dietetic Value of Cheese.

THE manufacture of cheese has for its object the production of a food consisting of casein and fat. The proportion of the latter varies considerably according as the milk employed has been pure, enriched by the addition of cream, or deprived of its fat, as is the case with skimmed milk. The richness and flavour of cheese depends also to a certain extent upon the breed and the nature of the food of the animal from which the milk is obtained. While most varieties of cheese have their source in cow's milk, some are made from the milk of the ewe, and others from that of the goat. Within the Arctic circle the milk of the reindeer is used. In past years farmers usually made their own cheese, but cheese-making is carried on so much more economically in factories nowadays that it is fast becoming a lost art with them.

The first step in the manufacture of cheese is the separation of the casein and fat from the liquid matter or whey, which latter retains a certain amount of proteids, the sugar, acids, and salts. The separation is effected

either by allowing the milk to turn sour or by adding rennin. In the former case the milk is set aside at a suitable temperature (35 deg. to 42 deg. C.) to permit of the decomposition of its sugar into lactic acid and carbon dioxide by the lactic acid bacillus. It may not be without interest to recall here the fact that the lactic acid generated by this bacillus differs from the lactic acids produced by certain other bacteria in that it is optically negative, i.e., incapable of rotating the plane of polarised light, while the other lactic acids are either dextrogyratory or levogyratory.

The second method, that of precipitating the casein and fat by means of rennin, or labferment, as it is frequently termed, is the one commonly employed in industrial cheese-making. Rennin, a soluble ferment found in the gastric secretion of mammals, has the power of curdling milk in a short time at a temperature of from 30 deg. to 40 deg. C., and in the presence of a neutral or slightly acid reaction. A higher or lower temperature, or the addition of alkalies, has the effect of weakening or wholly destroying its activity. It is present in considerable quantity in the mucous layer of the suckling calf, and on this account this organ is chiefly used in the cheese-making industry. Formerly the stomach was prepared for the purpose by being cut into strips, salted, and dried, but this method has been superseded by the use of the ferment in the form of a dry extract. The fermentative changes set up by rennin are the same as those caused by the lactic acid bacillus. The acid separates the curd or cheese, to which a liberal quantity of salt is then added. The consistency of this coagulate is modified to a great extent by the quantity of lime salts contained in the milk; Hammarsten has shown that soft cheese contains a less amount of lime salts, and especially of lime phosphates, than hard cheese.

The ripening of the product takes place in cool and airy cellars in a which certain relative humidity—generally from 80 to 95 per cent.—is maintained. Different kinds require different temperatures; thus Roquefort does best at 4 deg. C., while for some other varieties a temperature of as much as 20 deg. C. has been found to be the most favourable. During the ripening process a portion of the casein is transformed into a more digestible substance which is probably an albuminate of sodium. In some kinds of cheese the mass becomes soft and liquescent as a result of the action of the cheese spirillum (*Spirillum tyrogenum* Deneke), which changes it into peptone and a diastatic ferment. In others the decomposition goes still further and leads to the formation of amido acids (leucin and tyrosin) and compounds of ammonia. A partial decomposition of fat also takes place, the volatile fatty acids thus formed giving rise to the characteristic odour. The principal changes which cheese thus undergoes depend upon the presence of bacteria, and are therefore essentially fermentative in character. They are accompanied by the evolution of carbon dioxide from the sugar present; and it is to this gas that the holes seen in most products are due. The reaction of the cheese is acid at first, but gradually becomes neutral, and, in some varieties, alkaline.

The object in keeping cheese at certain temperatures is to provide the conditions most favourable for the growth of the bacteria, without which the ripening process would not be possible. Nineteen varieties of bacteria have been found by Adametz to be active normally in the ripening of various kinds of cheese, some of them coming from the milk or the vessels in which it was kept, others from the air, and still others from the water and labferment which have been added. In the course of time one variety or another predominates; some varieties disappear altogether, but on the whole the total number of bacteria grows steadily and rapidly. Adametz, from a series of examinations made by him, estimates their number at 850,000 in one gram of ripe cheese. A certain proportion of these are saprophytes.

Some varieties, like Roquefort, Gorgonzola, Stilton, etc., owe their quality not merely to bacterial action, however, but also to the influence of certain mould fungi.



PURE, WHOLESOME, DELICIOUS.

# BIRD'S CUSTARD POWDER

The unfailing resource of every Lady of the House  
and successful Housekeeper.

**NO EGGS! NO TROUBLE! NO RISK!**

These can be grown on sterilized bread and thus be obtained in pure culture. Roquefort, for example, is made by adding to the curd of ewe's milk a dough consisting of equal parts of wheat and barley flour with which yeast and sometimes vinegar have been incorporated. The mould formed on this dough, which is rubbed into a powder before being used, is found to consist of three fungi: the *Penicillium glaucum*, *Mucor racemosus*, and *Oidium aurantiacum*. It is the cause of the peculiar pungency and greyish-green or bluish veins and spots which characterize the above mentioned cheeses. The first named of these fungi forms the mildew often seen on eatables, ink, shoes, and other objects which have been kept in warm and moist places. Another mould fungus, the *Aspergillus glaucus*, is also frequently met with in some cheeses. An undesirable parasite not uncommonly found living on over-ripe cheese is the cheese-mite, *Acarus domesticus*.

The different varieties of cheese are generally known by the name of the localities in which they are made. In Europe, exclusive of Russia, there are about 190 varieties having a commercial importance; of these, about sixty are manufactured in France, and thirty in Germany. In the United States cheese-making is carried on extensively, some of the product being exported.

The value of cheese as a food depends upon the amount of proteids (casein) and fat contained in it. The subjoined table, after J. Koenig, gives the average chemical composition of some of the best-known varieties.

		Nitrogenous		Milk-Sugar Minl.	
	Water.	Substances.	Fat.	and Acid.	Salts.
Brie ...	49.79	18.97	26.87	0.82	4.54
Neuchâtel ...	41.04	14.32	43.22	—	1.42
Stilton ...	32.07	26.21	34.55	3.32	3.85
Stracchino...	39.21	23.92	33.67	—	3.80
Emmenthaler	34.34	29.49	29.75	1.46	7.10
Parmesan ...	31.80	41.19	19.52	1.18	9.31
Dutch ...	36.60	28.21	27.83	2.50	7.29
Edam ...	36.53	25.89	28.85	3.59	7.71
Chester ...	33.96	27.68	27.46	5.89	6.76
Cheddar ...	33.89	27.56	33.00	1.90	4.66
Roquefort ...	30.37	27.69	33.44	3.15	5.35

As will be seen from this table, Parmesan cheese, which contains nearly 50 per cent. of its weight of nitrogenous matter and about 20 per cent. of fat, furnishes the greatest amount of nutriment; all have considerable food value and, when ripe and taken in small quantities, form a desirable auxiliary to the usual diet on account of their

piquancy and their property of stimulating digestion. When eaten in large quantities, however, and especially when cooked, they are likely to act as irritants to the digestive apparatus and cause attacks of colic and flatulency. The constipating effect of cheese is well-known.

Skimmed-milk cheese is poor in fat, but rich in nitrogenous substances, and constitutes, therefore, a satisfactory substitute for meat among the poorer classes in some countries. Cream cheese, being made of cream gently pressed, is composed almost wholly of fat. Of recent years a cheese is being made in this country from oleomargarin.

\* \* \* \*

**Overdone Iron.**

THE quantity of iron annually fed to patients, if it could be condensed and collected, would stock a wholesale hardware plant or install a fair-sized furnace.

If we are to credit the conclusions of painstaking German investigators who have minutely and exhaustively studied the subject as is their habit when they undertake anything in the line of physiological chemistry, the quantity of artificially prepared iron actually absorbed and assimilated in the system is quite infinitesimal, if not actually *nil*. The plain truth, now well established, is that the human organism needs and contains the merest trace of this metal. It is even questioned whether the minute quantity found in the tissues is not accidental and extraneous rather than a necessary constituent. Whether this be so or not, the learned Teutons insist that what is found on analysis is strictly derived from animal or vegetable food ingested, in which it exists in a much more available and assimilable form. Apples and bread contain traces of it, flesh-foods, eggs and milk contain it, and it is found in many succulent vegetables, in cabbage, celery and cauliflower.

The true secret of its "tonic" fame is to be looked for in another direction. A leading English authority declares that it is *par excellence* an *oxygen carrier*, and Professor Thomson insists that the only true muscle tonic is pure oxygen. The presence of iron invites and probably compels a greater absorption of oxygen. Hence its mission in anemic and all debilitated states. If exhibited in excess it becomes an irritant and ends in inflammation. From overdoing it many have lost faith in it as a remedy, and neglect it entirely. Considered as a direct and necessary addition to the nutrition of the system, doubtless the German physio-chemists are right. It is very slightly if at all assimilated. Discriminatingly used in connection with other needed elements it undoubtedly performs an important function.

\* \* \* \*

**Food Falsifications in France.**

WE are told by *The Athenæum* that the chemical laboratory of the Paris municipality has satisfied itself, as the result of repeated analyses, that, on the average, two-thirds of the samples of milk examined have water added to them or are adulterated in a more or less injurious manner. Out of 104 samples declared good, 30 had water added to them, 82 had been skimmed, 3 had been artificially coloured, 22 had boracic acid or formol added. One is left in wonder what is the condition of the remainder if this is the verdict on those termed "good." But perhaps the climax of this kind of fraud is reached in the egg trade. Eggs are coloured red with the aid of pigments, which are frequently poisonous, and are sometimes derived from coal. This is, however, by no means the worst. Artificial eggs are constructed inside empty egg-shells out of gelatine and inferior fats, coloured up with saffron, turmeric, and chrome yellow. Can any further development be possible in this "industry?" If it were not for the two highly respectable writers who have signed this article, one would be disposed to consider the statement an odd form of pleasantry. The old proverb, "An egg and a nut you may eat after a slut," can hardly hold good nowadays.



## Official Reports and Notes.

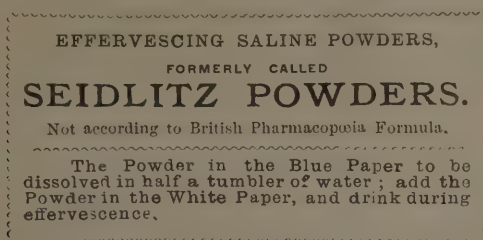
### Adulteration in Durham County.

MR. B. SCOTT ELDER, chief county inspector, presented the following interesting report at the last meeting of the Durham County Council.

Out of 187 samples of Food and Drugs submitted by your inspector's for analysis, I have the pleasure to report that in only 10 instances have prosecutions been necessary. I have no hesitation in saying that the general food and drug supply within this administrative county is of a very satisfactory nature. When it is remembered that in the majority of cases it is only the questionable sample which is bought for analysis (many genuine articles well-known to your inspectors being left alone) the small per-centage of adulteration is almost to be wondered at. I am pleased however to give it as my opinion that there are many tradesmen who would not stoop to hand an adulterated article to a customer, many wholesale firms who would not knowingly permit the adulterated article on their premises, and many manufacturers whose name alone is a guarantee of purity.

During the quarter I have had several communications from traders, both wholesale and retail, asking for advice, in some instances enclosing labels for my approval, in others proposing difficult legal questions, and in two instances enclosing a ten and sixpenny fee. While being anxious to assist traders in every way, I felt that such delicate work was not quite within my province and might lead to serious consequences, and as such requests were becoming quite frequent, I was reluctantly compelled to refer my correspondents to their legal advisers.

A very interesting Seidlitz Powder case has been heard during the quarter, in which I was able to pass over the retailer, and to charge the wholesale dealer with giving to the retailer, "labels which did falsely describe the articles sold." The articles were ordered, sold, and invoiced to the retailer, as Seidlitz Powders, and although the ingredients were correct, they were present (practically speaking) in only two-thirds of the necessary quantity, although the full price was paid. Each package, however, bore a label similar to the following:—



The case was strongly defended, but the Justices supported my view, and inflicted a penalty of £5 and costs upon the wholesale dealer.

There have been three prosecutions for adulteration of Golden Syrup, all resulting in convictions. I find it a difficult matter to buy "Golden Syrup" after the recent convictions. Wholesale dealers have lost no time in putting themselves right, not by altering the contents of the tins, but by altering the labels thereon, and now Table Syrup, Amber Syrup, Family Syrup, etc., etc., take the place of, and do duty for Golden Syrup. They are all I believe a mixture of Glucose Syrup, and Golden Syrup.

A very peculiar case of spirit adulteration, has been brought before the Justices during the quarter. An innkeeper when asked for whisky, proceeded to make preparations which caused my assistant to suspect that he was not going to be served as an ordinary customer, and he thereupon, seeing several bottles of what appeared to be whisky, asked to be supplied with one of them, but the innkeeper stated that he did not know what the bottles con-

tained. He admitted in my presence that he had filled the bottles himself, and that they were for sale, but he did not know what was in them. He uncorked one of the bottles and tasted the contents, more than once, and still insisted that he did not know whether it was whisky or brandy, and I failed to get him to give the spirit a name. My assistant, however, in my presence, purchased a pint, for which the innkeeper asked, and was paid the price of whisky, brandy being double the price. On analysis it proved to be a mixture of brandy and whisky, 38·18 degrees under proof. As only 25 degrees under proof are allowed, both in whisky and brandy, the sample contained too much water, but the point remained that it was not sold as anything, and that a purchaser could not be prejudiced by buying it. This defence was, of course, raised at the hearing, and defendant pleaded that it was a brandy especially prepared for some of his customers. The Magistrates in dismissing the case said:—"The case is a difficult one, and we don't see our way to convict. It is an extremely suspicious case, in the highest degree suspicious." I perhaps should state that the hotel is a large one, and that the landlord has had many years experience.

From information which reached me, I considered it advisable to give special instructions respecting samples of jam, and 29 samples were obtained, all of which, with one exception, I am pleased to report, were certified to be genuine. I found, however, that just prior to the issuing of these instructions, a firm had amended their label so as to include the "added" fruit, and a large trader informed me, that in his last consignment of jam, every jar had had its label either entirely, or partly scraped off, and he very wisely returned the whole consignment.

\* \* \*

### The Demerara Sugar Case.—Birmingham Grocers Attack Dr. Hill.

THE Birmingham Grocers' Association had under consideration the prosecution instituted by the city authorities against Messrs. Brown, Hopwood, and Gilbert, for selling dyed crystals as Demerara sugar. Commenting on a report presented with reference to the case, Mr. John Norris expressed the indebtedness of the trade to Messrs. Brown, Hopwood, and Gilbert for having defended the case on broad lines which challenged a decision as to whether the article commercially denominated Demerara sugar inferentially came from the Demerara Valley only or from the whole of the West Indian Islands which export a similar product.

The Chairman (Mr. George Bolton) said the association would always look upon the sale of yellow beet crystals for Demerara sugar as nothing less than a fraud. They had never countenanced such a transaction, nor would they support any trader who was guilty of it. But in the case under discussion it was admitted by the prosecution and their witnesses that the sugar was a pure cane sugar, and was the product of the West Indies. He thought the prosecution was a straining of the law to a remarkable degree. If he was served with Irish stew there was no implication that the stew came from Ireland. It was his conviction that when the Health Committee initiated the prosecution they were under the impression they were dealing with a case of beet and not cane sugar, and however good a Medical Officer of Health Dr. Hill might be, the grocers knew from experience he was not a man they should be subjected to. In this case he went into the box and swore that Demerara crystals should be yellow throughout, and not dyed, whereas the evidence was overwhelming against such a theory. The proof was so conclusive that the magistrates were compelled to stop the case and dismiss the summons without hearing the fifteen or twenty witnesses, including practical men in the trade,



and some of the largest grocers of the city and elsewhere, who were prepared to swear that West Indian sugars, no matter what island they came from, were recognised in the retail grocers' shops as Demerara sugar; moreover, evidence could have been tendered that the sugar actually came from the valley of Demerara, but that was not brought out because they were contending for the larger principle. What would be the effect on the trade if such things as these were allowed to go on, and they were to be subjected to such prosecutions as had been instituted during the past month in Birmingham? They might well ask how many persons had been convicted on such evidence as that given by Dr. Hill in this instance. Dr. Hill ought to be brought to book. (Hear, hear.) They as ratepayers had to pay the penalty of such misjudgment and such incompetence. This particular case must have

cost the authorities something like £200 at least. If the ratepayers were to be involved in needless expense of that kind it was time associations of traders resisted it.

A vote of thanks was accorded to Messrs. Brown, Hopwood, and Gilbert, for contesting the case, and to Councillor Jarvis for the assistance he had rendered.

Subsequently, Councillor Jarvis gave notice that at the next quarterly meeting he would move:—"That in view of the recent police court proceedings in connection with the question of Demerara sugar this association is of opinion that it is desirable to form a grocers' jury, subject to the control of the city authorities, to the end that it may co-operate with the authorities in the same amicable way as the juries already instituted in connection with kindred trades."

## Gold Storage Notes.

### Municipal Ice Manufactory at Wolverhampton— Divided Counsels.

SOME time ago the Markets Committee of the Wolverhampton Corporation submitted for the consideration of the Council a report in favour of the erection of cold stores and an ice manufacturing plant on part of the land on the north side of the wholesale market, at a cost of £9,450. Mr. Evans, at Monday's meeting of the Corporation, moved the adoption of the proposal, and pointed out the necessity of such stores, to meet the convenience of butchers, provision dealers, poulterers and other traders, who require to store perishable food. Mr. Hollingsworth seconded, and said that several private companies had offered to provide such stores in the town. The Mayor opposed the scheme, on the ground that it was not based on the best foundations, and it had not been shown that there was any real demand for such stores. Other speakers questioned whether the proposal would

result in a profit. Alderman Gibbons said he understood that a London Syndicate was about to erect cold stores in Lichfield Street. The scheme was opposed by several members, and the resolution was withdrawn, Mr. Evans stating that he would bring it forward at the next meeting.

\* \* \* \*

### Stafford Pure Ice and Cold Storage Company (Limited).

THE annual meeting of the shareholders of this company has been held. The report showed that after paying 6 per cent. on the preference shares there was sufficient profit to pay 5 per cent. on the ordinary shares, and that so extensive was the business that a further extension of premises was necessary. The report was unanimously adopted. Councillor F. Madeley was re-appointed auditor. The Chairman and directors were heartily thanked.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

Queen's Bench Division, May 19th. Before Mr. Justice Ridley and Mr. Justice Phillimore.

BATT V. MATTINSON.

THIS was an appeal by case stated from the decision of the Justices of Wellingborough. An information was preferred by the respondent, Thomas Mattinson, an inspector under the Sale of Food and Drugs Act, 1875, against the appellant, Alfred Richard Batt, the manager of the Midland Stores, Wellingborough, charging him that on December 19th, 1899, he did unlawfully sell to the prejudice of the respondent, the purchaser, a certain article of food which was not of the nature, substance, and quality of the article demanded—namely, golden syrup, the same being adulterated with glucose syrup, contrary to

section 6 of the Sale of Food and Drugs Act, 1875. The summons was dated January 8th, 1900, and was served on January 9th, and was returnable on January 19th. No copy of the analyst's certificate was served with the summons, and the summons did not state the quantity or proportion of glucose alleged to be contained in the golden syrup. The analyst's certificate was not given until January 2nd. At the hearing before the Justices it was objected on behalf of the appellant that, inasmuch as the information was not laid until January 8th, the proceedings should have been regulated in accordance with section 19 of the Sale of Food and Drugs Act, 1899, which came into force on January 1st, and which provides that the summons shall state the particulars of the offence alleged, also the name of the prosecutor, and shall not be returnable less than 14 days from the day on which it was served, and that there must be served with the summons a copy of the analyst's certificate obtained on behalf of the respondent. Section 10 of the Sale of Food and Drugs Act Amendment Act, 1879, provided that the summons in proceedings under the Sale of Food and Drugs Act, 1875, should contain particulars of the offence charged, and be made returnable not less than seven days from the day on which it was served.



On the part of the respondent it was contended that, the offence having been committed on December 19th, the date of the purchase, the procedure followed, which was in accordance with the provisions of the Sale of Food and Drugs Act, 1875, and of section 10 of the Act of 1879, was correct, the provisions of those Acts remaining in force, by virtue of section 38 (2) of the Interpretation Act, 1889, as regards any offence committed before January 1st. The Justices over-ruled the objection, and, having heard the case on the merits, convicted the appellant.

Mr. Bosney, on behalf of the appellant, contended that, inasmuch as the provisions of section 10 of the Sale of Food and Drugs Act Amendment Act, 1879, were repealed by the Sale of Food and Drugs Act, 1899, the provisions of the later Act applied to prosecutions instituted after the date of its commencement, notwithstanding the offence in respect of which the prosecution was instituted took place before that date, upon the principle that alterations of procedure were retrospective, unless it was otherwise provided in the enactment making such alteration.

Mr. Macaskie, for the respondent, contended that the old form of procedure was the correct form, and relied on section 38 (2) of the Interpretation Act, 1889, which provides as follows:—"Where this Act or any Act passed after the commencement of this Act repeals any other enactment, then, unless the contrary intention appears, the repeal shall not—(c) affect any . . . obligation or liability . . . incurred under any enactment so repealed; or (d) affect any penalty, forfeiture, or punishment incurred in respect of any offence committed against any enactment so repealed; or (e) affect any investigation, legal proceeding, or remedy in respect of any such . . . obligation, liability, penalty, forfeiture, or punishment as aforesaid; and any such investigation, legal proceeding, or remedy may be instituted, continued, or enforced, and any such penalty, forfeiture or punishment may be imposed, as if the repealing Act had not been passed," contending that there was at the time of the commencement of the new Act a subsisting liability under the old Act, the legal proceeding in respect of which would not be affected by the new Act. He contended further that, even if the Act of 1899 applied, all matters in regard to which that Act was not complied with were matters which could be cured by an adjournment. He cited "*Neal v. Devenish*" (1894, 1 Q.B., 544), in which it was held, under section 10 of the Sale of Food and Drugs Act Amendment Act, 1879, that the omission of particulars of the offence from the summons did not deprive the Justices of jurisdiction, but merely entitled the defendant to an adjournment in the event of the Justices being satisfied that he was prejudiced by such omission.

The Court allowed the appeal.

Mr. Justice Ridley said that the general rule was that enactments altering procedure had a retrospective effect unless a contrary intention appeared from the enactment. There certainly was no such contrary intention expressed in section 19 of the Sale of Food and Drugs Act, 1899. The respondent relied on section 38 (2) of the Interpretation Act, and especially on headings *c*, *d*, and *e* thereof. But those provisions related only to cases in which the enactment creating the obligation, penalty, &c., had been repealed. The effect of the provision was that a person who had committed an offence prior to the commencement of the repealing Act remained liable notwithstanding the repeal of the enactment creating the offence, the old Act remaining in force to that extent. But in the present case the enactment creating the offence with which the appellant was charged was not repealed. For this reason the Justices were wrong in holding that section 38 (2) of the Interpretation Act had the operation contended for, and, accordingly, it was proper that the new procedure should be followed, notwithstanding the fact that the offence was committed prior to the commencement of the Act by which such new procedure was instituted. With reference to the point that all the

matters in regard to which the Act of 1899 was not complied with were matters capable of being cured by an adjournment, he thought that the case of "*Neal v. Devenish*" was distinguishable, because the particulars were part of the summons, and could therefore be amended under *Jervis's Act*. But, turning to the present case, the summons being made returnable less than 14 days from the date of service was not a matter capable of amendment under *Jervis's Act*. It was a matter that never could be put right. Nor could the omission to serve a copy of the analyst's certificate with the summons be put right. If it was not done at the time of serving the summons it could not be done afterwards. For these reasons he thought that the appeal should be allowed.

Mr. Justice Phillimore delivered judgment to the same effect.

### Boracic Acid in Butter.

Mr. Justice Ridley and Mr. Justice Bigham, sitting as a Divisional Court of Queen's Bench on May 24th, heard the case of *Roose v. Perry and Co.*, which was an appeal from a decision of the County Court Judge of Flintshire in an action to recover damages for breach of warranty that certain butter supplied by the defendants, a Liverpool firm of wholesale dealers, to the plaintiff, a retail dealer, of Rhyl, was pure butter.

Mr. Bousey appeared for the appellants, and Mr. Bryn Roberts, M.P., for the respondent.

Mr. Bousey said the County Court Judge found for the plaintiff, and he was appealing against the decision, and his objection was that the learned Judge really mis-directed himself, inasmuch as he refused to decide or consider what pure butter meant as an article of commerce, and said that inasmuch as it contained something which was not in it when it left the churn it could not be pure butter. The amount in dispute was very small, but it was important, in consequence of the large trade in this kind of butter, and if the decision were to hold good, it would be a very serious injury to the trade.

Mr. Bryn Roberts submitted that there could be no difference between the trade meaning and the conventional meaning, because trade terms were not used. The word pure was an ordinary adjective in common use, and no distinct trade signification could be admitted.

Mr. Justice Ridley, in giving judgment, said the case was not entirely free from difficulty, which was occasioned by the presence of the word "pure." In one sense of the word this was not pure butter. He thought it was not pure butter as he should ordinarily use the word, because it had boric acid in it. He did not think, however, that was the simple question in this case. If it were, the decision would have to be reversed. It was sold as a trade article by persons in the trade as pure butter. That seemed to introduce a different class of reasoning, by which one ought to be guided. It had been decided—he thought rightly—that where persons were dealing with each other in a trade different considerations arose from a case in which a customer bought an article. This clearly was dealing in a trade, and so far it seemed to him that the learned County Court Judge ought to have considered that, and asked himself whether this butter, which contained such a proportion of boric acid, would be still described as pure butter in the trade, although it was not pure in the abstract.

Mr. Bigham did not think the County Court Judge had fully appreciated the character of the contract made. For the purpose of interpreting the warranty, he should think the County Court Judge was wrong in refusing to take into consideration what the trade meaning of pure butter was.

The case was ordered to be remitted to the County Court Judge, the costs to be costs in the action.



**MILK PROSECUTIONS.**—At Bow Street, on May 22nd, Charles Scott, dairyman, of Great Wyld Street, was summoned, before Mr. De Rutzen, for selling milk to which boracic acid had been added. Mr. H. C. Jones prosecuted on behalf of the St. Giles's Board of Works, and stated that a sample of milk sold by the defendant was found to be adulterated to the extent of 60 grains of boracic acid to the gallon. The defendant said he sold the milk exactly as he received it. He understood that a commission was sitting to consider whether the use of boracic acid in milk was injurious to health. He therefore wanted his case adjourned until the commission had issued a report. Mr. Jones said he knew of several cases which stood adjourned pending the receipt of a report from the commission, but in those instances only a few grains of the acid had been used. In this case sixty grains to the gallon had been used, and, of course, it was injurious to health. Dr. Lovett, medical officer to the St. Giles's Board of Works, said he was by no means opposed to boracic acid. In fact, he took a little occasionally for gout, but only an infinitesimal quantity. Sixty grains to the gallon was an excessive quantity, and would be injurious to health, especially to that of young children. Mr. De Rutzen said a question had been raised as to whether the use of a little boracic acid should be allowed to preserve milk in travelling, but the quantity used in this case was absolutely beyond reason, and the defendant must pay £5 and 2s. costs.

At Worship Street, on May 22nd, Thomas Davis, milk contractor, of Sun Street, Finsbury, was summoned by the Sanitary Authority of Bethnal Green Parish for selling milk adulterated with water to the extent of 9 per cent. Mr. Margetts, solicitor for the prosecution, stated the facts, which were not contested. The defendant went into the witness box, and said he sold the milk as he received it from the country farms, but had no warranty. Mr. Cluer said persons who bought without warranty were the greatest nuisances to those who had to administer the law that could be. Defendant said the producers would not give warranties now. Mr. Cluer: If you all combined, and kept London without milk for two days, you would soon have your own way. A fine of 40s. and 12s. 6d. costs was imposed.—William Hatton, milk vendor, of Chapman Street, St. George's East, was summoned for obstructing Sanitary Inspector Mills, of Bethnal Green Vestry, in his duty. Mr. Margetts said the defendant practised what was known as the "two can trick" in the milk trade, that is the carrying of two cans, one containing pure milk, and the other adulterated milk. The latter was served to children and women at the doors, or those little likely to detect it. The Inspector asked to be served from the can, and on insisting the defendant tipped the can over, but in this case sufficient was saved to enable an analysis to be made, with the result that the milk was found to be adulterated to the extent of 19 per cent. Mr. Cluer said it was a mean trick, and imposed a fine of £12, recoverable by distraint.—John Elston, milk vendor, of Felix Street, Bethnal Green, also summoned for obstructing the Sanitary Inspector of the same parish by a similar trick, was fined £12.

William Harris, of the Regent Dairy, Attercliffe Road, and James Harris, of 35, Baker Street, who were summoned before the Stipendiary last December for selling adulterated milk, appeared again in court at Sheffield, on May 23rd. Mr. W. G. Collingwood, from the Town Clerk's office, appeared for the Corporation, and Mr. R. Fairburn for the defence. On the original hearing, the defendants pleaded a warranty, and the Stipendiary, considering this constituted a sufficient defence, dismissed the cases. The Corporation, as the prosecutors, however, appealed to the High Court against this decision. The appeal was successful, and the decision was upset. As the result of the appeal, therefore, the Corporation now asked the Stipendiary to convict the defendants on the original summonses. The Stipendiary criticised the holdings of the High Court at some length, remarking that it would be a great improve-

ment if there was a clear and accepted definition of the meaning of a warranty. Mr. Fairburn said that the defendants intended in the future to affix a printed warranty to each can of milk. The Stipendiary imposed a fine of 1s. and costs in each case, making 16s. altogether.

Mr. W. H. Stead Crabtree, the Inspector of Weights and Measures has, with his assistant, been making a raid upon the milk vendors of Clay Cross. On the 20th April, he visited Clay Cross and came across the wife of Charles Reid, a Woodthorpe farmer, selling milk. He bought a pint of new milk. A portion was sent to the public analyst, Mr. J. White, who certified that there were 91 parts of milk and 9 of added water. At the Clay Cross Petty Sessions Reid had to answer the charge of selling adulterated milk. Mr. Crabtree, his assistant, Mr. Marples, and Mr. J. White, produced the evidence for the prosecution. Reid's defence was that he did not water the milk, and he had respectable testimony at home to support his contention. Besides his cows were all old calved. A fine of 10s. was imposed which, with the costs, made in all £1 8s. 6d.—Two other cases of neglect to put names and addresses on the cans from which the milk was sold were brought. The delinquents were J. Hopkins, of Hill Top Farm, Tupton, and J. Clarke of Holmgate. The Inspector said when the Act came into operation on the first of January last, notices were posted universally, calling the attention of the farmers and milk vendors to their responsibilities. The offence was admitted, but the delinquents pleaded ignorance. The penalty in each case was 8s., including costs.

**BUTTER AND MARGARINE PROSECUTION.**—At the Limerick Police Court on May 18th, Mr. Ambrose Hall heard the adjourned prosecution on behalf of the Irish Dairy Association against Mr. G. O'Dea and Mrs. O'Dea for selling margarine as butter, and also for having margarine on sale without being labelled. From the evidence given at the last hearing it appears that in Mr. O'Dea's absence, and while Mr. Kelly, the assistant, was otherwise engaged, Mrs. O'Dea gave margarine instead of butter to a woman named White, who had been sent by Lawrence M'Donnell, Inspector of the Dairy Association. For the defence it was sworn that some pieces of butter and margarine were temporarily placed on the counter, while the assistant was washing down the butter shelf, and that Mrs. O'Dea cut the pound of butter, as she thought, from one of these pieces, which proved to be margarine. When the assistant saw that the wrong article had been given he told Mrs. O'Dea, who asked him to run after the woman, but while they were speaking M'Donnell came in and explained that he wanted the sample for analysis. Mr. Philip O'Sullivan, solicitor for the defendants, said that as the facts had been elicited last day he was willing that his Worship would give judgment, he having presided on that occasion. Having re-heard formal evidence, and Mr. O'Sullivan having declined to cross-examine, Mr. Hall held that due diligence had not been exercised in marking and keeping separate the margarine, and fined each defendant £10 and £1 respectively in each case, with two guineas costs. It is stated that an appeal will be lodged.

**DISEASED SAUSAGES.**—At Scarborough Police Court on May 18th, Vernon S. Ellis, porkbutcher, 90, Falsgrave Road, Scarborough, was charged with having had in his possession certain meat which was unfit for the food of man, viz., 10 hams, 61 pieces of pork, and other oddments. The Town Clerk (Mr. D. Arthur Nicholl) prosecuted, and Mr. Tasker Hart represented the defendant. The evidence of the Medical Officer of Health (Dr. Herbert Littlejohn) and Dr. Cuff, J.P., was to the effect that the defendant had twelve hundredweight of pork in premises behind his shop, and in which were sausage-making machines, the whole of which was "in varying stages of putrefaction." The sausage machines contained diseased meat. The defence was that it was intended to have the meat removed for burial the same evening. The magistrates announced their intention to convict, and the defendant was then further charged with having exposed for sale in



his shop diseased sausages. There was no tangible defence, and the magistrates imposed a fine of £5 and costs in the first case, and £1 and costs in the second, the Chairman (Mr. B. Fowler) observing that it was one of the worst cases that had been before the Scarborough Bench. The defendant had run the risk not only of making people ill, but of killing them. He (Mr. Fowler) had no idea that there was anything of the sort going on in Scarborough.

**MAGNESIA ADULTERATION.**—At Castle Eden, on May 20th, Thomas Ellis, shop-keeper at Trimdon, was charged by Mr. B. Scott Elder, County Council Inspector under the Food and Drugs Act, with having sold magnesia not up to the prescribed strength. Mr. Scott, Newcastle, defended. Mr. Scott Elder stated that there was a case from Trimdon Colliery, in which the defendant was charged with selling as pure magnesia a substance known as carbonate of magnesia. He (Mr. Elder) purchased six of the packets, each of which was labelled pure magnesia. On being analysed they were found to contain only 49 per cent. of magnesia. The composition was known as carbonate of magnesia. Whilst the price of one article was 7d. per pound wholesale, pure magnesia was sold at 1s. 5d. per pound. He was going to do his best for the defendant. He might say that some six months ago five wholesale chemists and druggists voluntarily came to his office and admitted their faults. They pleaded that it had been for years the custom of the trade, but promised to rectify the matter in the future. The firm from which the articles in question had been purchased had sold these goods a considerable time before this. He asked the magistrates, under the circumstances, to take a lenient view of the case and order the defendant to pay the costs. Defendant, he might say, had pleaded guilty, and promised not to do it again. Especially did he ask them to deal leniently with the defendant on account of that being Mafeking day. All England was rejoicing over that glorious news. His friend represented a rich firm, and if he cared, might send a guinea towards the fund for the Mafeking sufferers in honour of the relief of magnesia (laughter). The Chairman remarked that that was a good suggestion, but they could not enforce it. Mr. Scott, in defence, pleaded guilty to a technical offence, and thanked Mr. Elder for his leniency. The Bench ordered defendant to pay the costs.

**DEMERARA SUGAR CASE WITHDRAWN.**—Edwin Hill, grocer, of Balsall Heath Road, appeared before Mr. Fisher and Dr. Warden at the Birmingham Police Court on May 25th, summoned for selling Demerara sugar not of the nature and quality demanded, but which contained 100 per cent. of dyed sugar crystals. Mr. Naden, who appeared for the Corporation, applied for the summons to be withdrawn considering the decision of the magistrates at the hearing of a case of a similar nature some weeks ago. Mr. Fisher said the magistrates would like some explanation why this course was suggested. The Bench could only decide each case upon the evidence before them, and they had heard nothing of this case. Mr. Robinson, for the defendant, said it was alleged in the previous case that this was beet sugar. Since the last case he had consulted an analyst, who declared that this was, in his opinion, cane sugar. That, therefore, made the present case equal with the other, and for that reason the withdrawal of the summons was asked for. Mr. Fisher again pointed out that they had never decided any question with regard to beet sugar. The case was then withdrawn.

**BAKING POWDER PROSECUTIONS.**—At Bristol, on May 23rd, Sarah Mann was summoned for selling baking powder mixed with alum. Mr. Wise said there were two substances used as constituents of baking powder, tartaric acid and alum. The former was the more expensive article and was not injurious, but alum was a fifth of the expense and was held to be injurious to health. Mr. Simpson, Inspector under the Food and Drugs Act, spoke to purchasing four halfpenny packets of baking powder from the defendant's shop at 25, Stapleton Road. It was marked

"Canadian Baking Powder," and bore a Bermondsey address. The defendant said she had been selling the same baking powder for years, and did not know she had been doing wrong. Dr. Davies, Medical Officer of Health, said the sample forwarded him contained 20 per cent. of alum, and this would be injurious to health. Mr. Wise said that baking powder had not been held to be a food within the meaning of the Food and Drugs Act before last year, but then it had been very wisely brought within the Act. Notices to this effect had been widely circulated. The Bench said this was the first case brought before that court with regard to baking powder, and it should be generally known that baking powder came within the provisions of the Food and Drugs Act. There was no doubt that the powder had been mixed with alum, but as it was the first case, they would fine the defendant only 10s. and costs.

Percy Walter Packham, grocer, Horley, was summoned for selling to the prejudice of Mr. Talbot Kyle, Inspector under the Food and Drugs Acts, baking powder, which contained the following parts: Alum, 19 per cent; bi-carbonate of soda, 14 per cent.; farinaceous matter, 67 per cent. Mr. Cliff, assistant to Mr. Kyle, said he asked the defendant for a twopenny baking powder when he went into the shop. Mr. Kyle produced the certificate of the analyst, who said "I am of opinion that the said sample, as a constituent of food, is a substance injurious to health." In replying to the magistrates, Mr. Kyle said there should be no alum in baking powder. It was much cheaper than tartaric acid, and that was the reason of its being used. The defendant said he purchased the baking powder in all good faith, and he had sold a similar article for sixteen years past. The Chairman said the defendant could have protected himself by obtaining a guarantee, but he had not done so. He was found selling an article which contained 19 per cent. of something that was very injurious to health, and therefore he was liable; a fine of 10s. and costs would be imposed.

**A SALE OF SKIM-MILK CHEESE.**—Considerable interest was excited among the members of the grocery and provision trade in Wolverhampton in a case that came before Mr. Stipendiary Neville, on May 25th. Frederick Joseph Thould, carrying on business as a grocer and provision dealer at 177, Dudley Road, was summoned at the instance of Mr. George Allwood, Inspector under the Food and Drugs Act, for selling as cheese a certain article not of the nature and substance demanded. Mr. Allwood conducted his own case, and Mr. H. G. Tanner, solicitor, Birmingham, was retained for the defence. Mr. Allwood, in putting the case before the Bench, stated that on the 11th of April last a young man named Henry Thorpe went to the defendant's shop at his (Mr. Allwood's) request, and purchased several articles. Amongst them was a pound of cheese, for which he paid 6d. The cheese was supplied to him by the defendant himself, and no remark was made by the latter at the time of purchase as to its quality. A portion of the cheese was afterwards handed to Mr. E. W. T. Jones, the borough analyst, who afterwards certified that it was not genuine whole milk cheese, but was cheese made of skim milk, and only contained 12 per cent. of butter fat. Mr. Allwood submitted that when cheese was asked for whole milk cheese should be supplied, and should contain a percentage of not less than 30 per cent. of butter fat. He submitted that the same rule should apply to cheese as his Worship had laid down with regard to milk, viz., that it should be genuine milk, and not milk from which the cream had been removed. He called Harry Thorpe, who stated that on the day mentioned he went to the defendant's shop, and after purchasing some other articles asked for a pound of 6d. cheese. He was served by the defendant, who made no remark at the time with respect of the quality of the cheese, and he naturally expected to receive cheese of the ordinary kind. Cross-examined by Mr. Tanner: Defendant did not say "Cheese is very dear just now, and our 6d. cheese is Dutch cheese." He said so afterwards to Mr. Allwood, when he came into



the shop. He did not say to me, "You had better taste the cheese," or anything to that effect. Mr. Allwood gave formal evidence of receiving the cheese from the last witness, and dividing it into three portions in defendant's presence. Defendant remarked to him that "cheese was very awkward at the present time in regard to price, and the cheese sold to Thorpe was Dutch cheese." Cross-examined by Mr. Tanner: Witness did not regard the "Encyclopædia Britannica" as an authority on cheese. Mr. Tanner here read a paragraph from the work referred to, which stated that cheese might be divided into three classes. First, that which was made from whole milk, plus a certain proportion of cream; secondly, cheese that was made from whole milk only; and thirdly, cheese that was made from skim-milk. Witness, in reply, said he should regard the two first as genuine cheese, but not the last. He regarded skim-milk cheese as an impoverished kind of cheese. Mr. E. W. T. Jones (Borough Analyst), gave evidence as to his analysis of the sample cheese submitted to him. He found it to contain only 12·3 of butter fat and 40 per cent. of water. It was altogether a very poor article, even in comparison with margarine cheese. Cheese made of whole milk should contain not less than 30 per cent. of butter fat. Cross-examined by Mr. Tanner: He did not say that the "Encyclopædia Britannica" was not an authority on certain subjects, but what Mr. Tanner read was simply a reprint. Cheese might be made in three different ways there stated, but he could not regard skim-milk cheese as genuine cheese. He held that when a customer asked for cheese he should be supplied with cheese made of whole milk, or, as in the case of Stilton cheese whole milk enriched by additions or cream. The skim-milk cheese referred to would be subject to decomposition in course of maturing. Mr. Tanner, for the defence, said this was a case of great importance, both to the members of the grocery trade and to the general public. Because absolutely so far as he could find no case of this kind had ever been brought before the superior Courts, and there was no decision he knew of recorded. He submitted first that the summons failed to disclose any offence that the cheese was made from skim-milk. The Stipendiary: Well, that brings us back to the same point. Because, if cheese made of skim-milk is held to be cheese there is no offence. Mr. Tanner: Certainly. According to the terms of the Act, I say the analyst's certificate is insufficient on the face of it. Because the Act distinctly lays down that any certificate relating to milk, butter, or any other article of food liable to decomposition, the analyst is to report whether any change has taken place by means of decomposition. The Stipendiary: But you must take it that all substances are subject to decomposition. What is meant there is whether any change has taken place liable to affect the analysis. I certainly did not understand Mr. Jones to say that there had. Mr. Tanner said in the next place he would call attention to the wording of the second paragraph of section 25 of the Act of 1899. It there states that "the expression cheese means a substance known as cheese, containing fat not derived otherwise than from milk." The learned gentleman then read a quotation from the "Encyclopædia Britannica," dividing cheese into two qualities (1) that kind of cheese which was eaten by a certain class of the population as an aid to digestion; (2) another quality of cheese which was eaten as an article of food by that class of the population who took it in place of animal food. And the "Encyclopædia Britannica" stated that skim-milk cheese was a valuable article of food, on account of its containing a large quantity of nitrogenous products. Being, therefore, a cheap cheese, it was likely to be bought by the labouring population. He called as witnesses the defendant. Frederick Joseph Thould, who stated that he distinctly told the man Thorpe when he purchased the cheese that it was Dutch cheese, and he invoiced it as such on the bill he gave to him. Witness had been in the trade eighteen years and never heard a customer ask for skim-milk cheese. It was generally sold when other qualities of cheese were dear, as it could be bought at a low price. William Chadwick,

wholesale cheese dealer, of Birmingham, gave similar evidence. The price of cheese, he said, depended upon its quality and age. Cheese was made both from whole milk and skim-milk. Gustave Bißgel, wholesale cheese dealer, of Moseley, Birmingham—and representative of the firm in Holland who supplied the cheese in question—said he never heard "skim-milk cheese" asked for, although it was a common article of commerce in the trade, and was sold as a cheap kind of cheese. Mr. George H. Kidson, wholesale provision merchant, North Street, Wolverhampton, said he supplied the cheese in question to the defendant. Although he had been in the trade 32 years, he never remembered hearing a purchaser ask for "skim-milk cheese," although he had sold large quantities of what was known as Dutch cheese. Even members of the provision trade themselves did not always know, when buying cheap qualities of cheese, that it was cheese made from skim-milk. The Stipendiary said the case was one of great importance, and he should like to take time to consider the various points that had been put before him. Agreeable to both parties, he would give his decision on the 6th June next.

#### MARGARINE CHEESE UNLABELLED.

Messrs. Pearks, Goorton and Tee, grocers and provision dealers, of 1, Jamaica Row, were summoned at Birmingham, on May 17th, for exposing margarine cheese, for sale without having it properly labelled. Mr. Naden supported the case on behalf of the City Council, and Mr. F. W. Beck, London, defended. The assistant in the shop, Wm. Henry Oliver, appeared to answer the summons. Inspector Jones proved that when he went into the shop he saw a label on one piece of cheese, but asked for half-a-pound to be cut off another piece, unlabelled, lying some distance off, and separated by several pieces of pure cheese. Oliver immediately stated that it was margarine cheese, and wrapped it in a paper marked "margarine cheese." Mr. Beck stated that his company were most careful to comply with the law, and required their assistants to sign an agreement under which they were liable to instant dismissal if they did not do so. He suggested that the magistrates dismissed the case on payment of costs, and and if they were not inclined to do that he proposed under the Margarine Act, to place his liability upon Oliver, who he contended, was entirely responsible for the offence. Evidence having been given the magistrates dismissed the case against the company on payment of costs, and fined Oliver 10s. and costs.—For a similar offence, which was admitted, a fine of 20s. and costs was imposed upon Joseph Hand, provision dealer, of Coleshill Street.

SEIDLITZ POWDER PROSECUTION.—At Solihull Police Court, on May 21st, Margaret Jane Smith, huckster, Drury Lane, Solihull, was charged with selling as butter a substance containing 95 per cent. of foreign fat. There was a further charge of selling seidlitz powders deficient of the proper drugs—in the blue paper to the extent of 37·2 per cent., and in the white paper to the extent of 58 per cent. Mr. Cross prosecuted on behalf of the Warwickshire County Council. George Henry Salmon, Inspector of Food and Drugs, said that on April 10th, he visited the defendant's shop and purchased 1lb. of butter. It contained 95 per cent. of foreign fat, it being margarine of a rather poor quality. In the second case, said Mr. Cross, the matter assumed a more important aspect. Mr. Salmon went into the shop and bought a box of seidlitz powders, for which he paid 10d. Dr. Bostock Hill found that the powders were adulterated as stated above, and that the effect produced by them would not be such as would be prescribed by a physician. Their effect upon the person taking them might be serious. The boxes were labelled "Superior to the ordinary pharmaceutical preparation." Defendant said that she bought the powder from a traveller who called and whom she did not know. The Bench fined defendant £1 and costs in the first case and £2 and costs in the second.



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## Food and Sanitation.

SATURDAY, JUNE 9, 1900.

### Grocers and the Demerara Sugar Question.

WHY grocers should time after time hasten to become catspaws of scheming sophisticators of food stuffs is hard to understand. Surely the very worst light in which grocers' friends could put the trade is to expose or label them as advocates of palming off upon the public as truth, what Swift called, "The thing which is not."

The grocer does not put aniline dyes into Demerara sugar, and it is not his business, nor is it his interest to take up cudgels for the persons who practice the "fake."

The grocer does not manufacture raspberry jam with twenty per cent. of apple pulp and glucose, nor does he make sophisticated golden syrup, or the host of frauds which scheming rogues victimise him and the public with.

The grocer's duty to his customers as well as his own interest, is in helping in every way to punish those who devise means of cunningly swindling or hocking the public. This Demerara sugar case is a strong instance of the shortsightedness of some grocers' advocates.

Captain C. R. Harris, R.N., writes:—"Comparing West Indian sugar to beet is like comparing pearls to oyster shells. Both sugars are grown in the earth—both pearls and oyster shells "grow" in the sea,—and here all similarity ends.

Sugar-cane is wholesome food raw. Children live on it. Beet is not—for human beings. Cane can be cut and grows again (called ratooning); beet cannot.

In 'Useful Knowledge' of 1825, I read: "The juice of the sugar-cane is so palatable, and at the same time so nutritive, that during the sugar harvest every creature which partakes freely of it, whether man or animal appears to derive health and vigour from its use. The meagre and sickly negroes exhibit at this season a surprising alteration; they now become fat and healthy. The labourers, horses, oxen, and mules, being allowed, almost without restraint, to eat of the refuse plants and of the scummings from the boiling-house, improve now infinitely more than they do at any other season of the year." That is as true to-day as on the day it was written.

Beet has not this character. Raw beet sugar has an offensive smell, and beet molasses is quite unfit for human consumption. Sugar cane and cane sugar are edible in all forms; beet is not.

We know that chemically one sugar is the same as another; so is possibly Vin Ordinaire and Chateau Margaux.

Bees fed on beet sugars die of dysentery; flies will not trouble it if cane sugar is about. What "T.J." calls prejudice, the chemistry of nature terms "palate."

The public take beet sugar unknowingly because they cannot get cane sugar. The Yankees know better and take our cane. One vessel has just left Barbadoes with 2,500 tons. If "T.J." and Professor Sherrington like maize glucose it is cheap to buy, but when sold as "golden syrup" it usually carries a fine of £20 and costs. It is unnecessary to adulterate any food with chemicals, dyes, or glucose, and I prefer my sugar as well as all other provisions "without the help of the chemist."

Following this the West India Committee write:

The recent prosecution by the Birmingham Town Council, under the Sale of Food and Drugs Act, of a grocer, for selling aniline-dyed sugar as Demerara sugar, has attracted much attention in the trade. As there appears to be considerable misapprehension of the whole question, and some misstatements having been made in the course of the proceedings before the magistrate, the West India Committee think it desirable to make known certain facts with regard to Demerara sugar, and the question generally.

It is a fact that where factories are provided with modern machinery, as in Demerara, Trinidad, and St. Lucia,



and in one or two isolated cases in other British West Indian Colonies, the process of manufacture of yellow crystals is practically the same in all cases, and it therefore may be safely maintained that crystallised yellow sugar, as it comes to this market from the British West Indies or British Guiana, is all of the same "nature, substance, and quality," and therefore any conviction of a grocer under the Sale of Food and Drugs Act for selling Trinidad crystallised yellow sugar as Demerara could only be made under a misapprehension of the facts of the case.

The case of aniline-dyed sugar, however, is materially different, and sugars which are coloured by means of aniline dyes cannot fairly be said to be of the same "nature, substance, and quality" as Demerara sugar.

The yellow colour in Demerara sugar is the result of a fine layer of molasses which, as a result of the process, remains adherent to the otherwise white crystals. These molasses have a very distinct and very agreeable flavour, and it is due to this flavour that Demerara sugar has become so generally popular.

In the case of aniline-dyed sugars the white crystal is surrounded by a thin layer of aniline dye and water, which has no appreciable aroma or flavour—in fact, whatever slight flavour it may add to the sugar is distinctly of a disagreeable nature.

It is perfectly true that, so far as the percentage of pure sugar is concerned, aniline-dyed sugar may contain as high a percentage as Demerara sugar, just as ordinary claret at 16s. a dozen may contain as much alcohol as the finest Lafitte worth 160s. per dozen. In the case of both sugar and claret the value depends partly on the flavour.

It was stated before the magistrate at Birmingham that aniline dyes are used in the manufacture of Demerara sugar. This is not the case. It is true that some fifteen years ago certain experiments were made in Demerara with aniline dyes, but as a result it was found that—

1. They did not improve the colour of the sugar.
2. They added appreciably to the cost.
3. They deteriorated the flavour.

Hence they were universally given up, and no aniline dye is now used in Demerara; and the same thing holds

good in the British West India Islands which manufacture yellow crystallised sugar on Demerara lines. What the West India Committee would distinctly understand by Demerara sugar is sugar made in Demerara, Trinidad, or any other British West Indian colony by the usual well-known Demerara process. If sugar were exceptionally made in Demerara by some new process involving the use of aniline dye, or involving any serious modification of its character, it is doubtful whether such sugar could be fairly said to be of the "nature, substance, and quality" of what has been known for the last forty years as Demerara sugar. Hence, in the opinion of the West India Committee, sugars coloured with aniline dye, no matter where they may come from, are not of the "nature, substance, and quality" of what is known as Demerara sugar.

It was freely stated before the magistrate in Birmingham that Demerara sugars are dyed, and it was also stated that what is known as "bloomer" and "phosphoric acid" are used as dyes. Neither bloomer (chloride of tin) nor phosphoric acid are in any sense dyes. Both the one and the other are used in order to restore to the sugar the natural colouring matter which is affected by the use of lime.

Sugar, whether made from cane juice or beet juice, cannot be extracted until the juice has been treated with lime. This lime affects the colouring matter in the cane juice, and the action of bloomer and phosphoric acid is to set free the organic acids which the lime takes up, and thus to restore and fix the colouring matter existing in the juice in the same condition in which it existed prior to the introduction of lime.—N. LUBBOCK, Chairman; ALGERNON E. ASPINALL, Secretary, West India Committee.

In the face of facts such as these and the practical absolute knowledge which every grocer who sold sugar twenty years ago possesses, it passes our understanding how it is that leading lights of the grocery trade should be such enemies to the fair fame of their own class as to waste time, money, and reputation in fighting the battle of manufacturers of "faked foods."

It is not the grocer's business to defend or side with such schemes; his customers are his living, and they claim his first and every care. The grocer who takes the side of the "food faker" brands himself as an ass or a rogue.

## Weights and Measures Notes.

### Butter of Light Weight.

Two butter-vendors were brought before Baillie Henderson in Aberdeen Police Court on May 25th, on a charge of exposing for sale pieces of butter found to be of light weight.

Alexander Chapman, Lethenty, Fyvie, pleaded guilty to having exposed for sale, in the public market place in Green, three pieces of butter without being provided with suitable appliances for weighing the same. The pieces were made up in parcels supposed to weigh half a pound, but were, in all, 11 drachms under weight. Accused pleaded that the offence was due simply to neglect; the butter had been purchased from a customer, and he had

omitted to weigh it. The Baillie, after ordering that the butter should be sent to the Sick Children's Hospital, imposed a fine of 7s. 6d., with the alternative of three days' imprisonment.

Charles Harper, Gordon Street, Huntly, pleaded guilty to the charge of having in Green exposed for sale nine pieces of butter also under weight. The Baillie, regarding this as a more aggravated case, imposed a fine of 10s., with the alternative of five days' imprisonment. Such an imposture on the public could not be tolerated. The butter would be sent to the Royal Infirmary. Accused, in leaving the dock, declared that the fault did not lie with him, and that he would not pay the fine. He would go to prison. The fine was paid in the course of the day.



# Chemistry and Longevity. Food in its Relation to Individual and National Development.

ABSTRACT OF A PAPER READ BEFORE THE HUNDRED YEAR CLUB. BY DR. H. W. WILEY.

AMONG the forces that are most effective in developing individuals and nations, we find that those which are most frequently discussed are education and religion. It is evident, without argument, however, that back of this there is another force which demands our first consideration, namely, nutrition.

We are all aware of the intimate relations which food bears to growth and development. These relations are well understood by the growers of farm animals. The science of feeding the animals of the farm has been so improved within the past fifty years as to be almost exact. Different types of animals are developed for different purposes almost solely by variations of food. One of the most striking instances of this kind is the development of the dairy cow. For example, in the dairy cow like the Jersey, the object which is kept in view from the earliest moment is feeding, so as to produce an animal which will give fat in its milk without having fat upon its body. One of the most successful breeders of Jersey cattle in the United States said in a lecture, which I heard not long ago, that a Jersey calf could be utterly ruined for making a superior Jersey milking cow during the first six months of its life. If during that time it was permitted to eat all it possibly could it would form the habit of fat production which would prevent it forever from becoming a typical milking cow. [Here is a hint for parents who are raising children that are hereditarily inclined to develop obesity.—ED.]

In like manner the science of feeding other animals of the farm has produced wonderful economies in agriculture, so much so that to produce a pig fit for the market at the present time costs less than two-thirds as much as it did twenty-five years ago.

Animals are fed also for working purposes as well as for fat and milk production. Chickens are fed to lay eggs and to make broilers; horses are fed to drag heavy burdens and to run in races, and sheep are fed on the one hand to produce wool, and on the other to produce mutton.

Of all the valuable animals, the feeding of man alone seems to have been neglected. It is evident, in order to secure success in any profession of life, that not only should the child inherit from his parents natural abilities and aptitudes for his profession, but also should, from the time of infancy, be subjected to a regimen of food, exercise and culture suited to the profession which he is to follow.

Among the great promoters of the French Revolution, which did so much to establish human liberty and so much to illustrate the terrors of fanatical despotism, are found many great figures, which stand like columns above the common herd. We easily recall the magnificent Mirabeau, with his sublime confidence in himself, escaping the guillotine, doubtless, in consequence of a premature natural death, asking during his last hours that his valet, to use his own words, "support this head, the greatest in France." We recall Marat going to his death by means of the dagger of Charlotte Corday. We admire Carnot organizing the finances of the struggling Republic in such a manner as to command the admiration of the world. We see the demagogic figure of Robespierre, clothed for a brief time with imperial power, but dragged finally to death on the guillotine. But among all these figures the one that appeals most to me is the rugged form of Danton, the purest and greatest democrat of them all; the man of the

people, living and working for the people and finally falling a victim to the "Terror." A little over a hundred years ago the French people, in recognition of his great services, cut off his head, and a few years ago the same people, in grateful remembrance of the same great services he had rendered the cause of liberty, built upon the spot where stood his humble home a magnificent statue. On the sides of the pedestal are engraven memorable sentences from his sayings, among these are the words "Après le pain, le plus grand besoin du peuple est l'éducation." This great man recognised first of all that bread lay at the foundation of all national greatness, education even coming after it in importance.

History of nations has shown that those which have been best fed have been, upon the whole, the strongest, bravest, and most speedily developed. To appreciate this it is only necessary to compare those nations that have been well fed for centuries with those that always had inferior or deficient nutrition. Among the older well-fed nations England stands preëminent. There is much, doubtless, in blood and heredity. People are at birth what that their ancestors have made them, but food, acting through thousands and thousands of years, made their ancestors what they were. So the English people, inhabiting a group of small islands, insufficient in extent to produce food even for its own people, are better fed than all the other peoples of the world.

The desire for food, as much as for conquest, has sent out her ships to all nations and to all quarters of the world to gather in corn as well as coin.

Not only in commerce does food play an important part. In the light of recent developments it is seen that beef was a more important factor, in our late war with Spain, than bullets.

It is evident that the food of the soldier is of quite as much importance in winning battles as his ammunition. This principle is recognised by most civil and military authorities; therefore it happens that the commissary department and the quarter-master's department, in a war, are of quite as much importance as that of the commanding general himself.

The study of foods in their relation to national development is intimately associated with the study of longevity. It requires no argument to show that that kind of food which is best suited to the full development of all the powers of the individual, and thus to all the powers of the nation, is also the kind which can prolong life. In this connection, therefore, and at this time, it is eminently proper that the scientific relations of food to longevity should be briefly set forth.

It is a well-known principle in epidemics and in contagious diseases that they spread most rapidly and do their most deadly work among those portions of the community which are poorly nourished. When an epidemic disease or a contagious disease attacks a community which is well nourished it finds individuals in whose systems the germs of disease do not readily find a lodgment, and if a lodgment be found, the battle which these disease germs wage with the vital forces usually ends in the victory of the latter. Therefore, first of all, good nutrition is requisite to secure a nation as free as possible from the dangers of epidemic and contagious disease,



Of all the sciences which have to do with the subject of food, chemistry is by far the most important. In the first place, the nature of food is only revealed by chemical studies. Albuminous foods or nitrogenous foods or proteids are, in many respects, the most highly organized of all the elements which serve as foods for the body.

The chemist looks at these bodies from the point of view of their composition and finds that they have a complexity of molecular structure which far exceeds that which is found in the fats or carbohydrates, the other classes of food to which attention will soon be called. In the most highly organized tissues of the body the nitrogenous element is always present in large quantities. Thus in the brain, in the nerves and in the muscles we find large quantities of nitrogenous tissues.

Therefore it must be admitted that among the classes of foods which have been mentioned, the nitrogenous or proteid foods may be ranked as of the first importance.

The second class of foods may be defined as those which include the starches and sugars. From a chemical point of view these foods are called carbohydrates, and while in some respects less complex than the class of foods just mentioned, they are just as essential to the proper nourishment of the body.

The carbohydrates of which the starches and sugars are types have, as learned by chemical science, the same centesimal composition. It is, however, evident that the atoms of which these molecules are composed are built up in very different forms; for otherwise it would not be possible that two substances which are chemically identical could be so different in their properties as are sugar and starch.

We find that while the nitrogenous foods, already referred to, are elaborated largely into the tissues of the body, starches and sugars, or carbohydrates in general, are not found to any great extent in animal bodies. In a state of health sugar is not found in the body or in its secretions, except as it may be in the alimentary canal since in the processes of digestion the carbohydrate food is entirely broken up, and if found at all in the body is found in shapes entirely different from that in which it originally existed. Thus it is evident that at first the chief function of foods of this class is to furnish to the body that vital energy and heat which are necessary to sustain life and health. They are the foods which represent the fuel fed into a furnace for generating steam to drive the machinery.

*(To be continued).*

## Official Reports and Notes.

### Food Adulteration in Wiltshire.

#### THE BAKING POWDER CASES.

THE following report of the County Analyst was presented to the County Council by the Sanitary Committee. The report is for the quarter ending 31st March, 1900:—

During the quarter of the year ending on March 31st I have analysed, as public analyst for the county, 138 samples, of which forty-five were either adulterated or mixed with some ingredient to which I desire to draw attention—as, for instance, samples of butter containing boracic preservative, though in some cases the preservative was in very moderate quantity, and not, in my opinion, to be regarded as an adulteration in the strict sense of the word. In all, twenty-two samples of butter were examined, of which six were found to contain boracic preservative in proportions ranging from 0.25 per cent. up to 1.00 per cent. Two samples of margarine were also found to contain boracic preservative, in one case in the proportion of 0.25 per cent., and in the other case in the proportion of 0.66 per cent. Of the samples of milk examined during the quarter, none were found to contain any preservative. Other samples examined during the quarter and found to contain preservatives were a sample of raspberry vinegar and three samples of so-called “non-alcoholic wines,” all of which contained small quantities of salicylic acid, and a sample of “tablet jelly” which contained boracic preservative. I have examined during the quarter fifty-one samples of baking-powder, and ten samples of analogous materials such as blanc-mange powder; custard powder, and egg powder. No fewer than twenty-three of the samples of baking powder and two samples of egg powder were found to contain alum. Baking powder properly consists of a mixture of bicarbonate of soda with farinaceous matter and tartaric acid, the function of the tartaric acid

being, when the flour is moistened, to liberate the carbonic acid gas from the bicarbonate of soda. Alum is used as a cheap substitute for tartaric acid, and is a highly pernicious substitute, inasmuch as it is calculated to produce indigestion and other gastric troubles. Through a decision of the High Court of Justice under the Sale of Food and Drugs Act of 1875, baking powder was placed outside of the scope of the Act as not being an actual food, and so for a number of years past there has been no power under the Act to prevent the free sale of these cheap and injurious substitutes for genuine baking powder. Under the Act which came into operation with the beginning of this year, however, the definition of food was enlarged so as to “include any article which ordinarily enters into or is used in the composition or preparation of human food;” and it is to be hoped that in a short time the evil will be suppressed. In the twenty-five samples of powder in which I have during the past quarter detected alum, the proportion of alum present has ranged from about fourteen per cent. to about thirty-eight per cent. A sample of mercury ointment was found to contain only fifteen per cent. of mercury, whereas the British Pharmacopæia preparation contains forty-eight per cent., but this sample was sold as “mild” mercury ointment; two samples bought as “magnesia” consisted of the cheaper drug “carbonate of magnesia”; and a sample of quinine wine was found to contain only half the proper quantity of quinine. Three samples of whisky were found to be below the legal strength, the deficiency ranging from two degrees to eleven and a half degrees of proof spirit.

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### The Medical Officer of Liverpool.

THE health authorities of the city, recognising the valuable services rendered to the community by Dr. E. W. Hope, the medical officer of Liverpool, have recommended the Council to increase his salary from £900 to £1100 per annum.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

#### Important Decision re Division of Samples.

MASON v. COWDARY.

IN the Queen's Bench Division, on May 31st, before Mr. Justice Darling and Mr. Justice Bucknill.

This was an appeal by case stated from the decision of justices of Bedfordshire, dismissing an information under section 6 of the Sale of Food and Drugs Act, 1875, preferred by the appellant, an inspector under the Act, against Ellen Cowdary, the respondent, charging her with selling, to the prejudice of the appellant, a drug, to wit, camphorated oil, which was not of the nature, substance, and quality of the drug demanded. The question in the case arose under section 14 of the Act, which provides as follows:—"The person purchasing the article with the intention of submitting the same to analysis, shall, after the purchase shall have been completed, . . . offer to divide the article into three parts to be then and there separated and each part to be marked and sealed or fastened up in such manner as its nature will permit, and shall, if required to do so, proceed accordingly, and shall deliver one of the parts to the seller or his agent." It was proved before the justices that on November 16th, 1899, the appellant purchased from the respondent, who keeps a small general shop, six 2d. bottles of camphorated oil. The oil was exposed for sale in bottles which were not, apparently, prepared by the respondent, but each of them bore a label with the name of a chemist in the neighbouring town of Luton upon it. There was no evidence whether the bottles were identical in character or appearance, or whether or not the labels on all the bottles bore the name of the same chemist. The six bottles were all purchased at the same time. The appellant, having notified that he intended to have the oil analysed, divided the six bottles into three lots of two bottles each, sealing each separate lot of two bottles in a separate bag. He handed one of the sealed bags to the respondent, taking away the other two sealed bags, one of which he subsequently forwarded to the public analyst, who found that the two bottles contained only 17.5 per cent. of camphor, whereas camphorated oil should contain at least 20 per cent. of camphor. The appellant did not open any or either of the bottles of camphorated oil or mix or divide the contents, and the two bottles handed to the respondent were in exactly the same state as when purchased. The justices were of opinion that the division of the bottles as described was not in compliance with section 14, and they were not satisfied that the contents of the two bottles analysed were identical with the other two lots of bottles in the hands of the appellant and respondent respectively.

Mr. Bonsey, for the appellant, contended that the article purchased by the appellant was the six bottles of camphorated oil, and that the method of division which he had adopted was, therefore, in compliance with section 14. It was the only practical method of division. The bottles contained so small a quantity of oil that the division of one bottle would not have produced a quantity of oil sufficient for the purposes of analysis. Nor would the mixture of several bottles of a drug of this kind into one for the purpose of division be practical, because some of the drugs which would have to be so treated were

volatile, and liable to change their character on exposure to the air, and the operation of making division in this manner would consequently require great care. In the case of seidlitz powders, which were sold in parcels containing several packets, the method of division adopted had been to divide the parcels into three portions of so many packets each. That was the fairest method of division in that case, and it was also the fairest method in the case of the bottles in question. It was important to obtain a decision as to the proper course to adopt in these cases.

The Court, without calling upon Mr. Muir, who appeared for the respondent, to argue, dismissed the appeal.

Mr. Justice Darling said that what the appellant did was to buy six articles and then to divide these six articles into three. In his opinion each of the bottles purchased was an article within the meaning of section 14, for it did not matter for the purposes of this Act how small the article was. As the appellant did not divide any one of the bottles into three parts, he did not comply with the provisions of the statute.

Mr. Justice Bucknill concurred.

MILK PROSECUTIONS.—On May 29th, at the Sunderland Police Court, Arthur Land was fined £5 and costs on an adjourned charge of having sold adulterated milk. A report which had been obtained from Somerset House expressed the opinion that the sample contained not less than 10 per cent. of added water. Defendant said that the milk was in exactly the same condition when the inspector got a sample as when he (defendant) had received it at the railway station a few minutes previously.—Thomas Heron was also charged with selling adulterated milk. Mr. J. Pattison, borough analyst, said that there was 6.5 per cent. of added water, and the report of Somerset House showed that the added water was to the extent of 6 per cent. Defendant, who said that the milk had not been tampered with, was fined £5 and costs.—In a third case John Henry Mallam was summoned on a similar charge. The Town Clerk (Mr. F. M. Bowey), who prosecuted in all the cases, said he would put in a certificate showing the sample of Mallam's milk contained 10.47 parts of added water and 89.54 parts of milk. For the defence it was stated that the milk was not adulterated, and it was also contended that the boy who supplied the inspector had no authority to sell milk. The Bench, however found that the lad was authorised to sell, and defendant was fined £10 and costs.

At Bristol, on May 30th, William John Tatcher and Henry Edgar, of 32, Ashley Road, were summoned for selling milk from which a portion of some constituents had been abstracted. Mr. W. H. Wise (from the Town Clerk's office) prosecuted, and Mr. J. H. King defended. Mr. Wise stated that the summons was taken under a section of the Food and Drugs Act, 1875, which enacted that any person selling any article altered by abstraction should make a declaration to that effect. The defendants were wholesale milk dealers, and on May 3rd they sold to Mr. Simpson a pint of milk from which a considerable part of the butter fat had been abstracted. The defendants sold retail quantities to a man named Emery, and got his supply from a farmer named Batten. They were in possession of a separator. Emery had often spoken to the defendants about the poor quality of the milk. He had also seen the wholesale dealers, but he had not made a complaint to Batten. Fred William Simpson, inspector under the Food and Drugs Act, spoke to visiting Emery's premises in St. Paul's, and at the time the defendant's cart drove up in charge of a boy named Redmond. Witness



took a sample of the milk which was to be supplied to Emery, and an analysis was made, showing that it was deficient in butter fat. Another sample was taken later. In reply to Mr. King, witness added that an analysis of the defendant's milk had been made previously, but it was found to be all right. William A. Emery, of St. Paul's, said he received his milk from the defendants, to whom he complained on several occasions of its poor quality. Carey Batten, farmer, of Chipping Sodbury, said that he supplied the defendants with milk. He had never delivered any from which the cream had been separated. Frederick Wallis Stoddart, city analyst, spoke of examining the milk of the defendants, and he found it deficient in butter fat. For the defence, it was contended that the milk had not been touched in any way from the time that the milk had been delivered from Batten. On the morning of May 3rd the boy Redmond drove to Montpelier Station, where he brought back a churn of milk. The milk was placed in the shop for two hours, and then taken direct to Emery's shop. The Bench thought that the case was proved, and imposed a fine of £5 and £2 costs.

**JAM ADULTERATION PROSECUTION.**—At Durham on May 30th, George Holmes and Alf. J. Richmond, carrying on business as jam manufacturers at Darlington, were summoned under the Food and Drugs Act by the Chief Inspector of Food and Drugs for the County of Durham (Mr. B. Scott Elder), for selling a bramble jam, which, according to the certificate of the public analyst, was adulterated with apple pulp. Mr. J. Mawson appeared for the defendant firm. Mr. Scott Elder said the case arose from a sample of bramble jam which was purchased from a grocer at Tudhoe Grange on the 18th April. He was rather sorry that the defendant had pleaded not guilty, because he would have to call the grocer in question and put him into the witness box. That sort of thing in cases of the sort in question were very injurious to the grocer sometimes, but as the defendants had pleaded not guilty he must prove his case up to the hilt. Mr. Mawson intimated that his clients did not deny the analysis: they denied that the jam was labelled with a false description. Mr. Scott Elder, continuing, said the county analyst had certified that the sample in question was not bramble jam, but contained 25 per cent. of apple pulp. He had passed over the retailer in this case, and had summoned Messrs. Holmes and Richmond, who were the manufacturers of the jam. The latter sold the jam to the defendant and labelled it themselves, and they were responsible for any inaccuracy which might occur. In the section under which defendants were summoned they were charged with "wilfully giving a label for an article which did falsely describe the article sold." In the first place the jars were labelled bramble, and in the second place they were marked, "Gold medal, 1897." The Bench would remember at the last hearing, when he happened to mention this latter fact, Mr. Mawson suggested that he was "putting it on." Mr. Mawson: I suggest you are still. I don't suggest you put the printing on. Mr. Scott Elder: No, but that I was exaggerating. Mr. Mawson: Yes. He contended that the firm, according to their label, were, as fruit preservers, awarded a gold medal. Mr. Scott Elder now wanted to suggest that they claimed to have been awarded a gold medal for this bramble jam, which was not correct. As fruit preservers generally they were awarded this medal. Mr. Scott Elder: I have charged them with falsely labelling the jam, and my duty is to show what is on the label. The Chairman said it would not affect the case whether the medal was awarded for this particular jam or not. Mr. Scott Elder, proceeding to state his case, said the first analysis showed that the jam contained 25 per cent. of apple pulp. The defendants asked for the case to be adjourned so that they might have a private analysis made. A second certificate had been obtained from Somerset House, and he was pleased to inform them that the latter had supported the county analyst in every word to a decimal point. The defendants admitted that the jam contained apple pulp, and he could not understand why it was sent to Somerset House, except that there might be

some discrepancy between one certificate and the other. He was not going to suggest why the apple was put into the jam, except to call evidence to show that it was for the purpose of extra profit, bramble and apple jam being much cheaper than pure bramble jam. When one traveller offered pure bramble jam, and another offered bramble and apple jam, the one had the advantage of the other, if allowed to put 25 per cent. of apple pulp in. He did not speak on behalf of the manufacturers, but on behalf of the millions of people in the county, who looked to him to protect their food and drugs' supply, and he asked the bench to see that what was stated on the label was actually in the jam itself. Mr. Pearce, grocer, Tudhoe Grange, said he ordered four dozen half-pint tumblers of bramble jam. The goods were delivered to him with the outer cover labelled bramble, and the inner cover also labelled bramble. The Bench: What is the difference in price between bramble and apple? Witness: On 2 lb. jars perhaps 1s. or 1s. 6d. a dozen. By Mr. Mawson: Witness got his bramble and apple jam from various maker. He expected it would contain equal proportion of each fruit. Mr. Scott Elder spoke of purchasing two jars of bramble jam from Mr. Pearce on the 18th April for 8d. for the purpose of analysis. Mr. Mawson said Messrs. Holmes and Richmond had carried on business as jam manufacturers in the county of Durham for thirty years. He had never attempted to deny that there was a proportion of apple in this particular bramble jam, and he did not attempt to deny it now. It was true his clients were surprised at the analyst's certificate, stating that there was 25 per cent. of apple, because their practice was to put only a small percentage in. This they put in knowingly in the preparation of the jam. In ordinary cases of adulteration there was a particular standard to go by, but in the present case there was no standard, as jam was a commodity which was compounded of different ingredients. Jam contained a portion of certain ingredients, and if they looked at the definition of the word in the dictionary they would find that it was not a preparation of a fruit, but of the juices of fruits, that was not a preparation of one fruit alone. The Chairman: But bramble jam is not a conserve of different fruits, but a conserve of brambles. Mr. Mawson: That is what we say it is not, and I ask you to refer to any cookery book you like. The Chairman: We don't regard cookery books. The recipes are generally very bad indeed. Mr. Mawson: Can my friend give me any standard for bramble jam? The Chairman: Here is the standard on the label, "Bramble." Mr. Scott Elder: The defendants make their own standard by the label. Mr. Mawson: You mean to say it must contain nothing but bramble? Mr. Scott Elder: Certainly. Mr. Mawson explained that bramble was a fruit which did not make good and palatable jam by itself. It was very seedy and very devoid of acidity, and in order to bring it up to a standard of acidity they would find that all the cookery books said it must have something added. The Chairman: Nevertheless, a large quantity of bramble jam is made from brambles alone. Mr. Mawson said this would only be a very small proportion. Besides, it did not do away with the fact that a preparation which consisted largely of brambles was properly described as bramble jam. There must be different ingredients in certain jams to make them palatable and proper. The Chairman pointed out that cases had come before the court where marmalade was made mostly of turnips. Mr. Mawson said this was not a proper ingredient. His clients said openly that they put apples in the bramble jam, and they contended they were properly describing it as bramble jam. The prevailing ingredient was bramble, even if they accepted the percentage given. This large percentage, he might say, must have arisen through some mismanagement, because it was not the usual percentage they put in. The Chairman: It says it is whole fruit jam. I take it that means there is absolutely that one fruit in. Mr. Mawson: It means it is all whole fruit, but not wholly a particular fruit. Mr. Mawson proceeded to quote several recipes for making jam, when the Chairman called attention



to the fact that they were private recipes for private consumption. Mr. Mawson said his point was that there was no standard for jam, and he contended that the jam in question was properly described as bramble jam. The Chairman said the points Mr. Mawson had raised were beside the question. There was a statement on the label that it was whole fruit jam, and made out of whole brambles. That was the standard. What had the Bench to do with cookery books, etc. When the purchaser bought bramble jam he expected he was getting pure bramble. Mr. Mawson: I don't think any purchaser in the country would think bramble jam was pure bramble. The fruit is not a good preserving fruit alone. Mr. Holmes (of the defendant firm) was then called. He did not dispute the jam contained a percentage of apple. He was, however, surprised to hear it contained such a large percentage, as they only put from five to ten per cent. of apple pulp in. The reason they put apples in was this: They got the brambles from Ireland. They were gathered before they were ripe, otherwise they would not carry the distance. Consequently they were dry, and had not the amount of juice ripe brambles would have. Besides, they were a little extra seedy, and they were obliged to put this percentage of apple pulp in. Witness's experience was that everybody put some percentage of apple in bramble jam. One could not go to a restaurant and ask for a bramble pudding without getting a proportion of apple in, and yet it appeared on the menu as bramble pudding. Brambles themselves had an acrid taste. The apple corrected this, and also helped to set the jam. He would call the mixture bramble jam until the proportion of bramble and apple were equal. When the prevailing fruit was bramble he would call it bramble. He had consulted several analysts, and they told him they could not determine the precise proportion of the two fruits after they had been boiled and mixed together. Mr. Critchey, an employee of the defendant firm, said they always put 10 per cent. of apple in their bramble jam. Mr. Scott Elder: Do you consider 25 per cent. fair? Witness: I should if the brambles were more seedy than usual. The Chairman said the bench were of opinion that this was a case of adulteration. There was a previous conviction against the same firm, but the bench would not inflict a larger penalty because of that. They did not think the firm put the apple in with the deliberate intention of deceiving the public, and they inflicted a fine of only 40s. and costs. They might have put the apple in because a portion of the public were in the habit of liking bramble jam mixed in that way. Still it was not satisfactory, and the bench thought the label should distinctly say the jam contained some apple. It was certainly not pure bramble, and the bench hoped in future the defendant firm would put a label on which would let the public know that they were getting bramble with a certain mixture of apple.

**BUTTER AND MARGARINE PROSECUTIONS.**—Daniel Melia and Co., Limited, trading as grocers and butter merchants, at Goalgate Street, Stafford, and at other places, were charged with exposing for sale margarine which had not been sufficiently labelled. Mr. B. C. Brough, barrister, instructed by Mr. E. W. H. Knight, inspector under the Food and Drugs Act, prosecuted, and Mr. J. J. Parfitt, barrister, of Birmingham, instructed by Mr. P. Burke, appeared for the defence. The case was heard at this court three weeks ago, but the two magistrates who then sat failed to agree upon a decision. Mr. Brough, in re-opening the case, said the Legislature had thought fit to hem in the sale of margarine with numerous and exacting restrictions, and the effect of decisions in the courts tended to make the operation of the Act even more stringent. There was no imputation of fraudulent intention in this case; the only question was whether there had been an infringement of the Act by reason of its requirements not being carried out. The primary object of the Act was not so much to punish offenders as to protect the public. The issue in the case was simply whether each parcel of margarine exposed for sale bore a label duly marked "margarine" in printed capital letters not less than 1½

inches square, so exposed and in such manner as to be clearly visible to the purchaser. Evidence for the prosecution was given by William Giffard and Samuel Bennison, assistant inspectors, who went to the defendant company's shop on the 10th of March to purchase butter and margarine. They noticed two boxes containing margarine, one placed on the other on the counter. The top box contained 23 pound parcels and the bottom one 40 half-pounds. There was a tin label with the word margarine placed at the foot of the upper box, and on the top was a card with the figure "6d.," the whole arrangement resting on an earthenware platter which bore "margarine" in big letters. The allegation of the prosecution was that the lettering on the platter was obscured by tins of fruit, that the tin label was only affixed to the upper box, and that the separate packets or parcels of margarine were not labelled as required by law. Mr. Parfitt, for the defence, asked the Bench to draw a distinction between the words package and parcel, and submitted that a collection of packets or packages of margarine in a box constituted a parcel, placing a common-sense interpretation on the section of the Act. He invited the magistrates to say that the tin label, which was really meant to hide the partition between the two boxes, was so affixed as to be a sufficient attachment within the meaning of the Act. Messrs. Melia had adopted a similar arrangement in everyone of their 120 shops, and this was the first prosecution of the kind which had been taken. He contended that it was ridiculous to claim that each separate half-pound packet of margarine should bear letters of the size required by the Act, and he appealed to the Bench to interpret the section in a practical common-sense way. The witnesses for the defence included William Taylor, manager of the shop; Gilbert Marshall and Henry Robinson, assistants, and it appeared that in arranging the margarine as described they were simply carrying out the firms instructions. Mr. Brough argued that it was a legal question for the Bench to decide, while Mr. Parfitt relied on the question of fact. The magistrates retired to consider their decision, and on their return Mr. Podmore said they had fully considered the case, and decided to dismiss it. Mr. Brough opposed costs because it was a matter of public interest and one that ought to have been dealt with. Mr. Parfitt did not press the matter, remarking that Mr. Knight would not have taken the case up if he had not considered it one for investigation.

**BORACIC ACID AND MARGARINE.**—A case to which considerable trading interest attached engaged the attention of the Liverpool stipendiary magistrate on May 30th. William Boodle, grocer, was summoned for selling margarine adulterated with boracic acid equal to 51 grains per lb. Professor Boyce, Victoria University, said that the proportion of boracic acid in the margarine was large. A preservative was unnecessary, and he could only think that it was added to mask the rancidity of fat used in manufacture. He had given the same proportion of borax to milk for kittens, and it produced violent diarrhoea and emaciation. Boracic acid was injurious, however small the quantities, if taken long enough. Mr. Collingwood William, analyst, said there was no foundation for the suggestion that all margarine contained preservatives. He had examined numerous samples in which he found none. Mr. Harrison said that the defendant bought the margarine from the Irish National Milk Company, of Limerick, who had long experience of its manufacture. Preservatives were permitted if not injurious, and the effects of boracic acid were merely speculative. There had not been a single complaint of injury caused by it. He called evidence to show that boracic acid in small quantities was not injurious to health. The magistrate said that the issue was far too serious to be decided in favour of boracic acid in the limited area of a police court. They knew that preservatives were used to palm off on the market an article which otherwise could not be sold. A penalty of £20 and five guineas costs would be imposed. Notice of appeal was given.—Messrs. Muirhead & Sons and Mr. Thomas Finiston were fined 20s. and costs each for selling cream containing



boracic acid. Notices of appeal were also given in these cases, the contention being that cream would not keep 24 hours without preservative.—Messrs. Muirhead write that it was quite understood that the borax is added at the dairy when the cream is fresh, and that we are simply the vendors. The inspector acknowledged in the witness box that he was informed when purchasing that the cream was not sold as pure, and his attention was drawn to label as enclosed. We have, therefore, of course appealed against the stipendiary's decision. Honestly believing as we do that cream with borax added is very much preferable to cream on the verge of decomposition, as cream alone will be quite sour in 24 hours, we may say that we never used borax or any other preservative ourselves save the natural one, namely, cold.

**BAKING POWDER PROSECUTION.**—Mary Standridge, a grocer, of Whyteleafe, was charged under the Food and Drugs Act with selling egg powder which was mixed with 20 per cent. of alum and was injurious to health. Defendant pleaded not guilty. Inspector Kyle said he went to the defendant's shop and asked her servant, Georgina Andrews, to supply four packets of egg powder. One packet he handed back, and the others he sent to the analyst, who said the egg powder consisted of 20 per cent. of alum, carbonate of soda 10 per cent., and farinaceous matter 7 per cent., etc. The use of alum was injurious to health. The defendant was perfectly aware of the risk she was running. Miss Standridge said she purchased the egg powder off Mr. Coatman, a wholesale grocer of Croydon, as pure Canadian Baking Powder. She had no wish to sell adulterated articles, and was not aware that there was alum in it. She purchased the boxes on February 20th. Some of the packets were all right and some the other way. She passed the specimens to the Magistrates and invited them to sample it. She thought it was hard lines on her and other shopkeepers that such powder should be sold to shopkeepers. Fined £1 and 8s. 6d. costs.

**SPIRIT ADULTERATION PROSECUTION.**—At Hyde, on May 24th, John Mirfin, licensee of the Woodman Inn, George Street, Hyde, was charged with selling whisky 29·5 degrees under proof, or 4·5 per cent. more than is allowed by Act of Parliament. Mr. John Cooke, solicitor, appeared for the defendant, and offered a plea of not guilty in order to afford an opportunity of making an explanation. Inspector Lea stated that on Thursday, April 26th, he went to the Woodman Inn. He asked the defendant for a lemonade and a small whisky. Defendant served the whisky out of a quart bottle, which was almost full. He asked him for a pint of whisky from the same bottle. Defendant served him with a pint, and charged 2s. Witness had a sample analysed, and the analyst, Mr. W. Mitchell, F.I.C., reported it to be proof spirit 70½, water 29½, this being 4½ per cent. more water than was allowed. Mr. Cooke: Didn't you find the whole place in disorder through building operations? Witness replied he didn't notice. It might have been. Mr. Cooke, in defence, said if defendant erred at all it was on the right side, as this was one of the commodities the less they got of the better. So far as defendant was concerned, he was a novice at the business, not having been long in the house, which was undergoing certain alterations, by order of the bench, and as a result of the alterations there had been very little call for whisky, which they had kept temporarily not in kegs, but in bottles in the same bar, which was only three yards by twos. The bar had been confined with scaffolding, and the light shut out, which had caused the gas to be lit in the bar from morning till night. He thought the inspector would agree with him that the proper degree of heat to test spirits in was 60. They could easily imagine that under the circumstances the heat would be considerably above that. The heat from the gaslight had caused the spirit to expand, which had caused the cork to leave its

place, and evaporation had taken place. There did seem to him to be some reason for it. They knew that spirits did evaporate, and that heat caused it. He had heard it argued times out of number. Defendant was sworn, and said he had only been in the Woodman five months. He bore out Mr. Cooke's statement, and swore he had never tampered with the spirits. The magistrates imposed a fine of 5s. and costs.

**COCOA PROSECUTION: MICROSCOPIC LABELLING.**—At Lambeth Police-court, on May 31st, Villiers Peacock, grocer, was summoned for selling cocoa which was not of the nature, substance and quality of the article demanded, inasmuch as it contained 20 per cent. of added starch and 52 per cent. of added sugar. Mr. Marsden prosecuted for the Vestry, and Mr. Ellerton represented the defendant. Mrs. Groom, wife of the inspector, said that she went to the defendant's shop at the Parade, Herne Hill, and asked for two twopenny packets of "Pearl" cocoa. The article was served in the paper produced. At the request of Mr. Ellerton, the witness read a notice on the label in the following terms:—"This packet contains cocoa combined with other nutritious and wholesome ingredients requisite to produce perfect solubility, and is guaranteed in accordance with Act 38 and 39 Victoria, cap. 63." Mrs. Groom added that she did not read the label. Mr. Ellerton: My case is section 8. Mr. Marsden: I say the words do not tell us that there is anything like starch in it, and, secondly, that the section of the new Act provides that "the label referred to in Section 8 of the Sale of Food and Drugs Act, 1875, shall not be deemed to be distinctly and legibly written, or printed that the notice of mixture given by the label is not obscured by other matter on the label." If you will take the trouble to look at one of these packets you will find the words, "Taylor Brothers, Improved Pearl Cocoa." You have to turn it round and use a telescope or a microscope to see the notice. Mr. Ellerton: Oh, I beg your pardon, our friend in the witness-box did not use a telescope. Mr. Marsden has not read all the section which says, "Provided that nothing in this enactment shall hinder or affect the use of any registered trade mark or of any label which has been continuously in use for at least seven years before the commencement of this Act." I have here Mr. Taylor who is the head of the firm of Taylor Brothers, who will tell us that for 30 years past that label has been in use by his firm. Mr. Horace Smith: I am of opinion that it is a sufficient notice and sufficiently clear and distinct for the purchaser to see. Mr. Marsden: There is nothing about starch in it. Mr. Horace Smith: The Act of Parliament does not say you are to state the ingredients. Mr. Ellerton: That has been decided already in the Queen's Bench. Mr. Horace Smith: The real point in the case is whether that is a sufficient notice. I am of opinion that it is, subject of course to being overruled by a higher power. Mr. Marsden: I suppose you would state a case? Mr. Horace Smith: I would with pleasure. Mr. Ellerton said he had ascertained from Mr. Taylor that the labels of other leading manufacturers were similar. Mr. Horace Smith: I dismiss the summons. Mr. Ellerton asked for costs, but Mr. Marsden said the demand was nonsense, in which opinion Mr. Horace Smith agreed, inasmuch as the vestry only did its duty in bringing the case into court.

At Leicester, on May 17th, Edward Harris, coal dealer, was summoned for not carrying a weighing instrument on May 8th, and was fined 10s.—Sarah Tipping, grocer, Albion Hill, was summoned for committing a fraud by using a scale in which seven drams of bacon had been inserted under the pan on March 20th. Fined 40s., or one month.—Myra Wakeley, tobacconist, Victoria Road East, was summoned for committing a fraud by using a two-ounce scale under which one dram of tobacco had been inserted, and was fined 40s., or one month.



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## Food and Sanitation.

SATURDAY, JUNE 16, 1900.

### What is Cheese?

#### Important Decision at Wolverhampton.

In our issue of June 2nd we recorded a prosecution at Wolverhampton of the greatest importance. The learned Stipendiary has now given his decision and it is unquestionably one worthy of careful study.

It will be remembered that on April 11th, Harry Thorpe, acting for the Inspector of Foods and Drugs, purchased from defendant one pound of cheese, for which he paid 6d. Upon analysis the cheese was shown to contain only 12·3 per cent. of fat, whereas if the cheese had been made from whole or unskimmed milk it should have contained 30 per cent. of fat. It was admitted by the

defendant's witnesses that the cheese was Dutch cheese, and was made from skimmed milk, and the only question which the prosecution raised was whether it could be legally sold as cheese. On this point the Stipendiary gave judgment. He said the best definition he could find of cheese was that it was "coagulated milk or curd pressed into a solid mass," and the prosecution wished to read into that definition that "milk" meant "new milk"; but if that were so then Stilton cheese would not comply with the requirement as it was admittedly made of new milk with cream added to it. He noticed that Mr. Jones, the analyst, carefully said that cheese must be made of "at least" new milk, but he did not see the justification for inserting those words. Either the cheese must be made from new milk, or it was permissible to make it with added or subtracted cream. The definition of the Food and Drugs Act of 1889 only contemplated the addition of foreign fat not derived from milk, and there was none of that in the cheese in question. That Act said that "cheese" meant the substance usually known as cheese, containing no fat derived otherwise than from milk. The question was what was usually known as cheese? He took it that by the words "usually known" it was intended to imply "usually known by the public"—the consumers: not "usually known by the cheese trade or analysts." He was of opinion that there could be no doubt that "Dutch cheese" was usually known by the public as "cheese," though he had no doubt the public did not know that it was made from skimmed milk, and that it did not contain one-half of the fat that was contained in English or new milk cheese. He was constrained, unwillingly he admitted, to say that when a purchaser asked for "cheese," and some Dutch cheese was supplied, which was made from skimmed milk, and which did not contain one-half of the fat which would be found in cheese made from whole or new milk, still the article supplied was of the nature and substance demanded, though of a vastly inferior quality. He was glad, however, to see that by Section 4 of the Sale of Food and Drugs Act, 1899, the Board of Agriculture had power to determine what amount of fat should be present in cheese, and it rested with them to exercise that power in order to prevent the continuance of this fraud upon the public. He thought the proceedings had been very rightly taken on behalf of the public, and if the prosecution wished a case to be stated he would do so. The summons would be dismissed. The question now rests with the Board of Agriculture.



# Chemistry and Longevity. Food in its Relation to Individual and National Development.

ABSTRACT OF A PAPER READ BEFORE THE HUNDRED YEAR CLUB. BY DR. H. W. WILEY.

(Concluded from page 228.)

A third great class of human foods is known as the fats. The fats are even less complex in their chemical nature than the carbohydrates. They, however, are foods which are not only introduced into the body as such, but also are found stored up in the tissues of the body. Nevertheless it is evident from a study of the composition of the fats, which are found in the body, and those which are used as foods, that first of all the fat undergoes complete digestion. The fats which we eat are not the same as those which we find stored in our bodies. The fats have practically the same function in the animal economy as is exercised by the carbohydrates. They serve as sources of energy and heat.

Further, it is well established by chemical physiological researches that the fat which is stored in the body may be derived as much from the carbohydrates, which are consumed as food, as from the fat themselves.

Thus we may separate food into two great classes, namely, tissue-builders and sources of heat and energy. It is not possible to draw a sharp line of demarcation in any case, because the nitrogenous foods, which are essentially tissue-builders, are also sources of energy and furnish heat and vitality. On the other hand the carbohydrates and fats, which are essentially sources of heat and energy, also serve to a large extent as tissue-builders.

Evidently we have not considered here the mineral foods or the condiments, and these should not be neglected, because among the mineral foods, phosphate especially and lime are of the utmost importance; for it is from these substances that the bone tissues are largely built. They, however, do not serve as sources of energy and are deposited in the tissues and become a part of them. Therefore, the bones must be regarded as subject to nourishment. Any study of foods which does not include those which nourish the bones cannot be complete.

Chemistry has done a great work for longevity also, in showing that the different classes of foods, which have been briefly mentioned, should be exhibited for the purpose of nourishing animal bodies in certain definite proportions. Experience has shown, guided by chemical and physiological studies that the organism demands a certain relation between the various components of food. It is not possible to nourish, for any great length of time, an animal organism on any one class of food alone. If pure nitrogenous foods be fed without the others, the organism will be deranged, the animal will fall into ill health and will speedily die. In the same way the organism cannot be sustained indefinitely by a food of a purely carbohydrate nature nor of a fatty nature nor of a mineral nature. Thus it becomes of the highest importance to health and longevity that the chemist should investigate the correct proportions in which the various foods should be mingled for securing the best digestion results.

As a result of this principle the chemist has developed a balanced ration, that is, one in which the carbohydrates, the nitrogenous foods, the fats and the mineral matters are as nearly as possible distributed in accordance with the needs of the body.

It is evident that Nature is something of a chemist herself, because the foods which she has prepared are in

many instances excellent illustrations of properly balanced ration which practically contains all the foods necessary for the sustenance of the animal body. Although in many cereals such instances are found, in animal foods we find that there is a deficiency of carbohydrates, so that animal food should not be administered alone.

Not only has Nature pointed out some excellently balanced rations, but taste, which when cultivated is a good guide, has led men especially, but animals of all kinds generally, to select those rations which are properly balanced. It is found that the natural taste of man has by experience shown that meat, for instance, should be eaten with potatoes or some food of a highly carbonaceous nature.

I cannot here go into details as to what a properly balanced ration is. In fact, much must be left to the individual. It has sometimes been said that what is one man's food is another man's poison. While this is an exaggeration, it is nevertheless true that idiosyncrasies play a great part in human nutrition, and especially is this true when we consider the mental attitude which may be presented to the food upon the table. We know how severe mental strain, great passion, fear, grief, and anger, interfere with the processes of digestion, totally stopping or at least checking them so we cannot eliminate altogether the individual factor; and the principles which chemistry lays down are those for a normal being in a normal state of mind and not for any abnormal being subject to any abnormal circumstances. The province of the physician in these cases is to study each individual case and prescribe what is for the best.

Another way in which chemistry has done a most valuable service for longevity is found in the study of the purity of food. Perhaps no other one evil existing in this country is so much to be regretted as that which relates to the adulteration of food products. We find there is scarcely an object which is used as human food, which has not at some time or other been the subject of adulteration. Even bread has been mixed with terra alba and chalk. Butter has been sold which contains none of the fat of the cow. Our spices and our peppers are reduced in strength by the addition of other materials, and in the way of food preservatives, positively injurious substances have been added to human foods, which tend, when taken into the stomach, to derange digestion and to disorder the health.

For many years chemistry has interested itself with the study of all forms of adulteration. The science of chemistry is, as you know, opposed to the adulteration of every kind, especially of human foods, and while there are many forms of adulteration which do not directly affect health, the practice itself is so dishonest and leads to such debasement of moral fibre that every specie of adulteration must be fought, in order that those kinds which are most deleterious to health may be overcome.

It is not possible to admit adulteration with substances which are inert or not injurious and at the same time expect to prevent adulteration with those substances which do positively injure the health. Therefore, the chemist is not only ready but eager to study out these elusive forms of adulteration, no difference how secret they may be, nor how difficult of detection, and to bring to



the light. So in the last few years it has been found that great advances have been made, and in this way the consumer of food, if he now cares to protect himself, has at his service chemical science, prepared to tell him not only what is injurious, but detect and illustrate its practice.

While I admit that almost every article of human food is subject to adulteration I am not one of those who believe in being an alarmist and of imbuing the public mind with the idea that every article of food which is exposed for sale is an adulteration. Such is not the case. The large majority of foods which are offered for sale are all that they claim to be but nevertheless the practice of adulteration, which has extended at some time or other to every variety of human food, is still in vogue, and it is not sure by any means that to-morrow when you go to the market or the grocery that you will be able in every case to say positively that you know exactly what the purchase you have made contain.

Another thing which must be considered is that chemistry is doing all that is possible to secure that same purity for drugs which has just been spoken of in the case of foods. What utility can there be in purchasing at the apothecary a prescription made out by your physician, if the ingredients therefore are not what are asked for? Granting that medicines are beneficial, the argument follows with irresistible force that the defender of the apothecary must fill his prescriptions with the materials asked for. Here, again, chemistry comes to the aid not only of the physician, but also of the patient, in securing from the apothecary an assurance of the genuineness of his articles. The adulteration of drugs have been almost as extensive, perhaps, as those of foods, and the chemist proposes to extend the same watchful care over the apothecary that he does over the dealer in foods. So, from this point of view, too, it may be seen that chemistry performs and is performing a signal service for longevity.

The periods of childhood and youth and early manhood and womanhood are taken up almost exclusively by a preparation for the duties of life. Why, then, may we

ask, should a person devote twenty-five years of his life to preparation and then fail to secure any time for the exercise of the faculties that have been developed and the powers which he has secured? Premature death is a loss, not only from a personal point of view, to friend or relation, but to society.

The question now may be very properly asked, What does chemical science propose to do for the promotion of longevity in the future? The answer is easily obtained from a consideration of the points mentioned above. In the first place, it must be confessed that although great advances have been made in all the different branches of study which have been alluded to, there is much yet unknown. The whole process of digestion is peculiarly a chemical one. The foods as they are taken into the stomach are not in a condition to be assimilated into the tissues of the body. They have to undergo profound changes and transformations of a purely chemical nature. For instance, in the mouth itself the process of digestion begins. The salivary glands, containing oxidizing or hydrolyzing ferments which are capable of changing starch into sugar. But even after starch is changed into sugar the process is not complete, because we have already seen that sugar as such does not enter into any of the tissues of the body, and hence the process of digestion must go still further. In the stomach we have the proteid digestion. The gastric juices which contain the oxidizing ferment or hydrolyzing agent, act upon proteid matter, in order to render it assimilable, and thus stomach digestion is peculiarly one in which the nitrogenous foods undergo profound changes. Farther along in the alimentary canal the food comes into contact with the secretions of the pancreas and others of the digestive organs, and these also contain ferments of a highly important nature, capable of acting on fats and starches and other elementary foods. Thus it is seen that the chemist must study more minutely all these chemical changes that foods undergo, in order to deduce the laws which will lead to the most favourable conditions to secure the greatest health and consequently the greatest longevity.

## Gold Storage Notes.

### Cold Storage for Fruit.

A FEW years ago what was called "Jam Farming" was recommended as one of the means by which agricultural depression might be relieved. To a certain extent the growth of fruit has been tried, but it has been found that in hot weather much of it has been spoilt before it could be sold at market for a satisfactory price. In this way great losses have often occurred. To obviate this the question of cold storage has been raised by the Kent and Surrey County Councils, who have been carrying out experiments, but have met with little support from home growers; it is now proposed, however, to extend to growers and market gardeners invitations to form a special committee, acting in conjunction with the County Council sub-committee, and so to secure that personal interest and co-operation which they have not yet given to the experiments. It appears that these have yielded results which should be made known. The trials were made last year on a commercial scale according to the County Superintendent of Horticulture; an excellent consignment of black currants was among the fruit dealt with. Owing to a misunderstanding about sending it to market the ultimate test, that of actually exchanging the fruit for money, did not mature, but the committee had the qualified satisfaction of proving, on a large scale, what it had proved the year previously on a small one, namely, that the fruit will keep for some time in good condition, while waiting for a favourable market. As regards the plums there was no such *contretemps*, and

the result was a great success. One grower wrote as follows: "I have seen my forty halves of plums to-day at the market after their having been in the cold stores for three or four weeks, and find them in good condition, and realising double the price they were worth when put in the chamber. In every way the experiment is a complete success." Another grower sent a capital lot of Victorias. The price when stored was 4s. per half, and they realised when sold 9s. per half. The result is, therefore, encouraging, and if properly supported the effort might do much good to fruit-growing districts.

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### Cold Storage for Ships.

THE Cork Steamship Company's steamer "Kennmare" has arrived at Liverpool, and discharged the first consignment of butter carried out under Messrs. J. and E. Hall's refrigerating system, with which the vessel has just been fitted. The method is known as the carbonic anhydride system, and is capable of maintaining the temperature of the holds at below 30 deg. Fahr. in the hottest weather. The machine is placed in the engine-room, under the engineer's direct supervision, and here the brine is cooled and circulated through pipes fixed under the decks and along the sides of the holds. The system has been found to work with great efficiency, the consignment of butter just discharged having arrived in the pink of condition.



## Official Reports and Notes.

### Food Adulteration in Lancashire. An Improvement throughout the County.

THE Journal of the Royal Lancashire Agricultural Society, includes two reports by Mr. W. J. Parkinson, who, until the adoption of the latest Act for the prevention of food and drug adulteration, acted as inspector for the Society and the County Council. They record a greatly improved state of affairs, particularly in regard to butter, in the county, and Mr. Parkinson says that similar improvement is noticeable throughout the kingdom. A large number of shopkeepers are now only dealing in the best article. Last year he obtained 74 convictions out of 78 prosecutions, but the cases he got needed much more seeking than in any previous twelve months. Mr. Parkinson points to the need for closer supervision of the butter supply especially at ports of landing on the east coast. The splendid Acts of Parliament dealing with adulteration of food might, if worked by people with expert knowledge of butter and cheese, have obviated the universal depression in the dairying industry of the country and the enormous frauds practised for many years upon the consuming public of the kingdom.

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### Food and Drugs Act in Staffordshire.

THE County Analyst reports:—Under these Acts I have received from the County Inspectors during the last quarter 320 samples for analysis; 296 I have certified to be genuine, and 24 adulterated. This gives a percentage of adulteration on the number of samples received of 7.50, against 9.69 for the corresponding quarter last year, or against 6.75 for the immediately preceding quarter. From North Staffordshire I have received 169 samples, giving four adulterations, and from South Staffordshire 151

samples, giving 20 adulterations. Seventeen different kinds of articles have been submitted for analysis, but only six kinds have shown adulteration, which, arranged alphabetically, are as follows:—I have found each of the three samples of baking powder submitted contained alum, and I therefore certified them adulterated. Such articles as these, although not food, are brought within the purview of the Sale of Food and Drugs Act by section 26 of the 1899 Act, which came into operation the beginning of this quarter. I look upon alum in baking powders as objectionable, because when such are used in making bread they unquestionably give this article an adulterated character. Of 114 samples of butter I found only 2 wrong, these being margarine containing 5 and 4 per cent. of butter. I may here mention that margarine containing more than 10 per cent. of butter is now made unlawful by Section 8 of the new Act. Of two samples of coffee, one contained 53 per cent. of chicory. Of 161 samples of milk, 1 certified 11 to be watered, 17, 6, 45, 22, 17, 22, 8, 10, 8, 20, and 13 per cent., and 3 to be creamed, 22, 11, and 8 per cent. respectively. Of 12 samples of spirits, three (whiskys) were diluted beyond the statutory limit, but showed no other adulteration. Of two samples of sweet spirit of nitre, one contained 33 per cent. of ethyl nitrite less than the minimum given in the pharmacopœia.

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COUNCILLOR A. E. EKINS, the well known public analyst, has been elected without opposition to fill the vacancy occasioned on the St. Albans Board of Guardians through the "running out" of Mr. W. Bennett. He was proposed in the first paper by Councillor W. S. Green, and seconded by Councillor A. Symington, and in the second by W. Baum, seconded by Mr. F. Beal.

## Weights and Measures Notes.

### Sheffield Weights and Scales.

A NUMBER of Sheffield traders were summoned and fined for keeping unjust weights and scales. The cases were conducted for the Corporation by Mr. G. W. Catchpole, the chief inspector of weights and measures. A fine of 5s. was imposed on the Sheffield Co-operative Society, Trippet Lane, for having in their possession a scale which was seven drachms against the buyer.—C. W. Little, druggist, 197, Attercliffe Road, was fined £1, including costs, for having four weights which were fifteen grains, six grains, five grains, and  $3\frac{1}{2}$  grains respectively against the buyer.—Herbert Worrall, butcher, 66, Silver Street, was ordered to pay ten shillings for having in use a scale six drams against the buyer.—Arthur Pearson, butcher, 23, Allen Street, was fined £3 in respect of a half-pound weight which was seven drams light, and also a two-ounce weight one dram light, the cause being the absence of the leads.—Joseph John Shuttleworth, grocer, 308, Manchester Road, was fined 10s. in regard to three scales, one ounce, two drams, and  $\frac{1}{4}$  oz. respectively against the buyer.—James Cole Buddery, provision dealer, 19, Pinfold Lane, was made to pay 5s. for possessing a scale which was  $\frac{3}{4}$  oz. against the buyer.

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At Worcester, Mary Richardson, Brookend, Kempsey, was charged with selling butter unjust in weight. The Town Clerk prosecuted, and said that the prosecution was undertaken by order of the Markets Committee. Mr. Hughes and Mr. Harper visited the market on the date in

question, and weighed the butter of several dealers and that of defendant was deficient. There were two half-pounds 9 drachms deficient, one half-pound  $7\frac{1}{2}$  drachms, three half-pounds 7 drachms, and four other half-pounds 6,  $5\frac{1}{2}$ , 5, and  $4\frac{1}{2}$  drachms short respectively. Mr. Harper, Inspector of Weights and Measures, gave evidence, bearing out this statement, and said it was the worst case that had come under his notice during the past 11 years. Defendant said that she did not weigh the butter herself, but purchased it from some person at Earl's Croome, and it was brought to her by a carrier. Defendant was fined £2, and costs, the Chairman, saying that the Bench must protect the public. Mr. Halford said that defendant must obtain any redress she desired from those whom she purchased the butter.

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### Weights and Measures at West Bromwich.

MR. G. W. DAVIS (inspector under the Weights and Measures Act for the borough of West Bromwich), stated that during the year he examined 76,776 weights, of which 74,565 had been stamped; also 5,294 weighing instruments were examined, of which 4,807 were stamped; 6,758 weights were examined at the office, of which 2,520 required and were adjusted; 4,053 were stamped or re-stamped, and 168 were condemned; 4,425 measures were examined, of which 6 were adjusted, 4,224 were stamped, and 212 condemned; 606 weighing instruments were examined, of which 383 were stamped, and 38 rejected for repairs.



## Dietetic and Hygienic Notes.

### Milk as a Food.

In the course of a discussion at a recent meeting of the Medical Society of the County of New York (reported in the *Medical Record*), Major H. E. Alvord, chief of the dairy division, Bureau of Animal Industry, Washington, D. C., dealt with the work of the United States Department of Agriculture in connection with the production and handling of milk. Referring to the value of milk as a food, he said that it was not appreciated either by the producer or by the consumer. Milk was certainly better handled now than even a few years ago, and its transportation and distribution were also better. Moreover, the quality of the milk was better, as shown by the proportion of butter fat and total solids, and also as regards its freedom from bacterial contamination. This improvement he attributed less to legislation than to the individual enterprise of certain dairymen and companies. He was of the opinion that the milk supply was a great deal better than it was regarded by many people. There had been much unnecessary alarm over the possible danger of milk as a food. That milk was sometimes harmful could certainly not be disputed, but the number of such well-authenticated cases was proportionately very small. The standard of three per cent. of butter fat for food was enough for all practicable purposes, as milk containing four per cent. or more of butter fat frequently had to be reduced in order to make it acceptable to the human stomach. A moderately low percentage of butter fat was not really harmful, except in a commercial sense. From a careful survey of the milk supply of the United States as a whole, the speaker said that he felt entirely safe in saying that the actual presence of disease germs in such milk supply was very rare, and the cases of actual injury from these germs were rarer still. The great mass of evidence on this subject was negative, and in favour of milk rather than against it. Any one could satisfy himself of this by personal search of the official records.

All were agreed as to the undesirability of adding preservatives to milk, for they were simply a premium on

carelessness, filth and dishonesty. He felt strongly disposed to make the same statement regarding both sterilization and pasteurization. These methods should be employed only under certain circumstances, and by no means as the rule. Condensed milk was much less digestible than good natural milk; there should be further and more scientific research regarding the digestibility both of condensed milk and of milk that has been sterilized or pasteurized. He would, at the present time, advocate pure natural milk over all over preparations of milk as food.

Concerning the food value of skimmed milk the speaker remarked that one hundred pounds of skimmed milk contained more valuable food for the human being than one hundred pounds of whole milk. Butter fat had its function in the human economy, but it was not the valuable portion of the milk as a food.

With the greatest energy possible the speaker characterized the attitude of the New York Health Board on this skimmed milk question. He declared that there was no difficulty in regulating the sale of skimmed milk, if it was only energetically undertaken. Of course, prohibition was easier, but the attitude of New York City on this question was that of a lazy man. There was no article of animal food produced on this continent which could compare in usefulness, and pound for pound, when bought at the market prices, with skimmed milk, and yet the sale of this article was prohibited in New York City simply because the city authorities had not felt like exerting themselves sufficiently to regulate properly this most desirable traffic. Skimmed milk was sold in Boston, and very largely in the Connecticut valley to the milk operatives, and the latter partook very largely of this product, greatly to their advantage. Another great inconsistency on the part of the authorities of New York City was that they freely admitted condensed skimmed milk (condensed milk sold at low prices in the city), but barred out natural skimmed milk.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

MILK PROSECUTIONS.—At Oldham, on June 5th, a woman named Sarah Taylor, of Strinesdale Farm, Saddleworth, and a farmer of Underbank Farm, Gawsworth, near Macclesfield, were summoned at the instance of the Oldham Sanitary Committee for sending milk into the town for sale which was adulterated by having 10 per cent. of water added. They were each fined 40s. and costs. The defendant Taylor supplied milk to the Grange Park Milk Company. It was labelled "Pure milk with all its cream."

At Rugeley Petty Sessions, George Hudson, farmer, of King's Bromley, was charged with selling milk adulterated to the extent of 14 per cent. with water, also with issuing a false warranty for the same. Mr. Van

Tromp prosecuted, and Mr. Richardson appeared for the defence. Samuel Toy, inspector under the Sale of Food and Drugs Act, stated that he took samples of milk delivered by a youth named Hall. He saw the churn taken from a cart on which was defendant's name. The youth also produced a guarantee certifying that the milk was pure without any rinsings. He told him he was an inspector and took a sample from the churn, which he divided into three parts as usual, saying that one would be sent to the Public Analyst. Cross-examined: He took the sample outside the Creamery from the churn which bore defendant's name on it, after first pouring it into another vessel, into which he had previously put other lots of milk. It was quite empty when he poured the milk from the churn into it. He did not buy the milk. Charles Fokett, manager to Messrs. Edwards' Creamery, at King's Bromley, stated that they had a contract with the defendant for the supply of milk. On the 18th April the contract was verbal and not yet signed. Defendant agreed to supply 10 gallons. The warranty was delivered with the milk. Defendant had supplied him with milk for five or six years. Cross-examined: Since the summons had been served he had taken a sample which was satisfactory. He



knew that defendant's land was poor, and that defendant was not in a very good position. Mr. Van Tromp then deposed that he had received the sample of milk, a portion of which he had submitted to the Public Analyst, who certified that it was diluted with water to the extent of 14 per cent. Cross-examined: He believed the standard of fat was 3 per cent. in summer and in winter. Mr. Richardson urged in defence that defendant, who was about 80 years of age, farmed a very poor district. The land, in fact, was so poor that when cattle were placed upon it to grass he had to assist them with grain. The cause of the pooriness of the milk was therefore the pooriness of the land. He would prove that there had been no abstraction whatever. He further pointed out that the defendant had been charged with a similar offence a short time ago, and was it likely that he would in so short a time wilfully abstract the cream from the milk. No sensible man would do such a thing. The milk was not taken direct from the churn, but was tilted into another churn first, which would cause the fat to remain in the first churn, and leave the milk just poured off weaker than it was before. Defendant was then sworn and stated that he sent the milk to the Creamery by the lad Hall, the cows having been milked in the shed. No water was added and no cream taken away. Cross-examined: He had 14 cows, and sent the milk twice a day in April. He never had any milk left over, as what was left went to the calves. The milk was never skimmed. His only explanation was that the land was poor. Elizabeth Smith deposed that she had helped to milk the cows on April 18th, and no cream was taken out of the milk or water added. The milk was handed to Hall in the churn in the same state. Cross-examined: The quality of the milk had improved lately. Thomas Wardle, a boy, deposed to helping to milk the cows on April 18th. He did not see any water added to the milk nor cream abstracted, nor did he see any cream about the house. He saw the churn taken outside and handed to Hall. There were about seven gallons of milk sent to the Creamery. Cross-examined: He could not account for the other three gallons. By the Bench: He could not actually say how much milk was sent to the Creamery that morning. The Chairman said that there must be a conviction in the case, and as defendant had neglected the warning he had received when he was summoned before, the fine must be heavier. He would be fined £4 for the first offence, and £3 10s. for the second, and costs, a total of £9 14s.

At Westminster, the Glynde Creameries (Limited), of Walton Street, Chelsea, were summoned, before Mr. Sheil, by the St. George's, Hanover Square, Vestry, for selling milk from which 14 per cent. of the natural fat had been abstracted. Mr. Ricketts defended. The solicitor prosecuting for the Vestry said he was in a somewhat unfortunate position. On reaching the court he discovered that he had lost his papers from his pocket. Mr. Sheil: Then the position is that you are prosecuting Mr. Rickett's client for abstracting cream, and someone ought to be prosecuted for abstracting your papers. (Laughter). The Solicitor: I am under the impression that they were abstracted while I was in a 'bus. The worst part of the business is that the papers contained the analyst's certificates in these cases. Mr. Sheil: They won't be of much use to the thief. But I am afraid there must be an adjournment. Mr. Ricketts said he was prepared to admit the copies of the certificates produced. Mr. Sheil: In a quasi-criminal case you cannot admit anything. However, if all parties are agreed, the difficulty may be overcome. What is the defence? Mr. Ricketts: I am not sure that I have any. Mr. Sheil: That is what thought. (Laughter.) Mr. Ricketts said he might urge that the sample taken by the inspector was not such a bad one after all. The standard required had recently been raised, the sample came up to the old one. Mr. Sheil: If you urge that you had better have the analyst here for cross-examination. Mr. Ricketts: He would stick to the standard of 3 per cent., and I should despair of breaking down the analyst. Mr. Sheil imposed a penalty of £5 and

2s. costs.—There were similar summonses against Mrs. Cross, of Pimlico Road, and Henry Parker, of Ingrave Street, Battersea, the abstractions of the original fat in these cases being 14 per cent. and 92 per cent. respectively. Mr. Sheil imposed a fine of 40s. and 2s. costs in the case of Cross, and £4 and 2s. costs in that of Parker.

At Marylebone, on June 6th, George Dowse, Secretary to Handsley's Callow Park Milk Company (Limited), of 78, Copenhagen Street, King's Cross, and Arthur Marshall, a milk carrier in the employment of the Company, were summoned before Mr. Fenwick for selling to the prejudice of the purchaser milk which was adulterated with 20 per cent. of added water. Mr. Stewart, solicitor, prosecuted for the Marylebone Vestry. The milk was purchased in the street from Marshall, who was employed at the Company's branch establishment in Carlton Vale, Kilburn. Mr. Steele, solicitor, who appeared for the Company, said that it was a part of Marshall's duty every night to wash out the churns and prepare them for use the following day. On the evening prior to the day in question, Marshall was the worse for drink, and omitted to empty one of the churns of a painful of hot water which he had put in to clean it. The result was that in the morning the milk was put in with the dirty water, and the mistake was not discovered until Marshall had finished his round, when he found he had 2s. too much in his takings, and this sum he put into his own pocket; but as he had been with the Company 15 years without any previous complaint, he was retained in their service. Mr. Fenwick expressed great surprise at this, as Marshall had also, according to his own showing, defrauded the Company. He fined the Company £5, with 2s. costs, and Marshall £5, with 12s. 6d. costs.

At Grimsby, on June 7th, Alfred Skelton, milk seller, of John Street, was summoned for obstructing Inspector Moody in the execution of his duty on May 7th. Inspector Moody stated that he waited at New Clee Station to obtain a sample of milk forwarded to the defendant from the country. Skelton, however, refused to allow him to take a sample until he gained the street, thus obstructing him in the discharge of his duty. Defendant thought he could refuse on the station, and then make the Inspector pay for sample when in the street. Fined £1 15s., including costs.—Mary Hudson was summoned for selling milk adulterated with water. Inspector Moody proved that the analysis stated that there was 7.89 per cent. of added water, and defendant was fined £1 1s. including costs.

#### Important Milk Case.—The Analyst's Certificate not Sufficient.

At the Dunfermline Sheriff Court on June 5th, Sheriff Gillespie gave his decision on the relevancy of the complaint against James Small, Dullonuir Farm, Cleish, Kinross, who was charged with having on the 19th April sold to William Davison, County and Chief District Sanitary Inspector for the Dunfermline District Committee of the Fife County Council, twopence worth or thereby of milk, as sweet milk, which was not of the nature, substance, and quality demanded, in respect that it was not genuine milk, but, as set forth in a report by George Duncan Macdougald, public analyst, Dundee, contained added water to an extent not under eight and eight-tenths per cent. When the case was first called Mr. James Currie Macbeth, solicitor, on behalf of the respondent, objected to the relevancy of the complaint, on the ground that the analysis did not conform to the requirements of the schedule appended to the Sale of Food and Drugs Act. He maintained that in accordance with all English High Court decisions, the analyst required, in an alleged case of added water, to state what the total percentage of water in the sample was, as well as the percentage of fat. The Sheriff continued the case until Tuesday to consider the point.

On the case being called on Tuesday,

Mr. McFarlane, Procurator-Fiscal, said that before his Lordship disposed of the question of relevancy, he thought it only respectful to bring under his notice a more recent case than that referred to last Court day.



Mr. Macbeth said he had to object to a second argument.

Mr. M'Farlane said he did not intend to open up a second argument. When the case was first called Mr. Macbeth founded his argument upon an English decision, and until two days ago he (Mr. M'Farlane) had not had an opportunity of seeing the decision. There was a subsequent decision where the analysis was exactly the same as in the present prosecution, and he thought it only right to inform his Lordship of this. If he were not allowed to say more he would make no further reference to the more recent decision.

Mr. Macbeth said that with deference to the Procurator-Fiscal this was altogether out of the ordinary course. He (Mr. Macbeth) would certainly not be allowed to raise a second argument. They must abide by precedent and order. From the heat with which the matter had been taken up this case was likely to go the High Court. He did not know what his Lordship's decision might be, but in any event it was not a case for a second argument.

Mr. M'Farlane said it was in view of the possibility of an appeal that he desired to inform the Sheriff of the more recent English decision. If the English decisions were to rule, a great deal of unnecessary expense was about to be incurred.

The Sheriff said he had not formed his opinion in deference to the views of the English authorities. It was his own opinion. At the same time it was in accordance with the views of the judges in one of the cases. The question which had now been raised was whether avizandum having been made, there could be a reference to a more recent authority. He was not sure whether that was competent, but at all events he would not put it on the grounds stated by Mr. M'Farlane.

Mr. M'Farlane: I thought it wrong to be in possession of the information without letting your Lordship know.

The Sheriff: If the Scottish High Court gave a decision between the time a local judge made avizandum and the time he give his decision it would be right to bring it to his knowledge, but I do not think we should go out of Scotland.

Mr. M'Farlane said that the more recent decision he had referred to was in the same Court as the decisions quoted the previous Court day.

The Sheriff said that the only decisions he could listen to were decisions in the Court of Session or the High Court of Justiciary. He did not think an argument could be added to after it was once closed. If Mr. M'Farlane were allowed to proceed, he would be improving an argument by quoting another case. His Lordship then proceeded to give judgment, which was in the following terms:—I have now looked into the cases cited at the last diet, particularly *Fortune v. Handon*, 1896, 1 Q.B., 202; and *Newby v. Sims*, 1894, 1 Q.B. 296, cited for the respondent; and *Bakewell v. Davis*, 1894, 1 Q.B., 478, cited for the complainer. I find myself obliged to come to the conclusion that the objection to the analyst's certificate must receive effect. The Sale of Food and Drugs Act, 1875, section 13, enacts that the analyst shall give a certificate "wherein he shall specify the results of his analysis." Section 18 enacts that the certificate shall be in the form set forth in the schedule to the Act or to the like effect,—

I, the undersigned, public analyst for the ———, do hereby certify that I received on the ——— day of ———, from ——— a sample of ——— for analysis, and have analysed the same, and declare the result of my analysis to be as follows:—

I am of opinion that the said sample contained the parts as under, or the percentages of foreign ingredients as under:—

Section 20 provides when the analyst, having analysed any article, shall have given his certificate of the result, "from which it appears that an offence against some one of the

provisions of this Act has been committed," then proceedings may be taken to recover the penalty before Justices in a summary manner. Section 21 provides:—

At the hearing of the information in such proceeding the production of the certificate of the analyst shall be sufficient evidence of the facts therein stated, unless the defendant shall require that the analyst shall be called as a witness, and the parts of the articles retained by the person who purchased the article shall be produced, and the defendant may, if he think fit, tender himself and his wife to be examined on his behalf, and he or she shall, if he so desire, be examined accordingly.

The respondent in this case did not require that the analyst should be called as a witness. The recent Sale of Food and Drugs Act, 1899, section 19 (2), enacts that there must be served along with the complaint a copy of any analyst's certificate obtained on behalf of the prosecutor. This puts a defect in the certificate very much in the same position as a defect in the complaint. I do not think that a defect in the certificate could be met by an offer by the complainer to adduce the analyst as a witness to explain his certificate, and indeed this was not done. For the present case the analyst's certificate is as follows:—

I am of opinion that the said sample is adulterated with not less than eight and eight-tenths per cent. of added water, and contains the parts as under:—

Milk	...	...	...	...	91.20
Added water	...	...	...	...	8.80

100.00

This opinion is based upon the fact that the sample only contains 7.75 per cent. of non-fatty solids, whereas normal milk contains not less than 8.50 per cent of non-fatty solids.

I think that, according to the principles laid down in the cases of *Fortune* and *Newby*, and recognised in the case of *Bakewell* (though, the circumstances being different, the result was opposite), that the legislature meant that the certificate must state the facts which are the results of the analysis in such a way as will enable the magistrate himself to come to a conclusion whether there has been a breach of the Acts, and will enable the person charged to understand, and, if possible, negative the charge. He must give data on which a magistrate can act without evidence and explanations. What is sufficient compliance with the statute may vary according to the nature of the charge. The best and fairest way is to set forth all the parts which exist in any appreciable quantity in the sample. But less than this may suffice. Where the charge is abstracting a part of one of the ingredients, say, fat from milk, it may be enough to state, as was done in *Bakewell v. Davis*, that the sample contained so much per cent. of fat less than natural. Because, if this is true, it necessarily follows that there has been abstraction of fat, irrespective of what are the other ingredients of the sample. Again, if the charge be adulterating with a substance which ought not to be in the thing sold at all, it may perhaps be enough to state that the sample contained so much of this foreign substance. Because here again it would necessarily follow that the offence charged had been committed, whatever were the other ingredients found in the sample. This complaint does not fall within either of the two classes just mentioned. It is a charge of adding to the thing sold a substance which is notoriously one of its main ingredients even in its purest state. In such a complaint, I don't think that any certificate satisfies the statutory requirements which does not at least set forth the total quantity of this ingredient found in the sample. Clearly, it is not enough for the analyst to set forth in opinion that the sample contained so much per cent. of added water. If he had done no more, this case would have been identical with *Fortune v. Hanson*. Here, no doubt, the analyst gives a reason for his opinion. He gives more information than the certificate in *Fortune's* case. But, after careful



consideration, I think that he has not given sufficient information, and that the present case is ruled, if not by the decision in *Fortune v. Hanson*, by the principles laid down by the judges. The additional information which is given in the present certificate is that the sample only contains 7.75 per cent. of non-fatty solids, whereas normal milk contains not less than 8.50 per cent. of non-fatty solids. On this the analyst bases his opinion that water to the extent of 8.8 per cent. has been added. He may be right—I believe that he is probably right—but it is not a conclusion at which a magistrate could arrive without evidence or explanation beyond what is stated in the certificate, and it may be added that it is not a necessary conclusion from the data given. The prosecutor explained, what my experience in milk prosecutions enables me to say in the case that whereas there is a great diversity of opinion among experts as to the minimum percentage of fat in genuine milk, there is practical unanimity as to the proportion of non-fatty solids which genuine milk ought to contain. If, then, there is an appreciable deficiency in non-fatty solids it shows that the milk has been mixed with a substance containing either no fatty solids or a less percentage than genuine milk. I understand that water is the only common substance of this class, sufficiently cheap to make it worth while to adulterate milk with it and sufficiently tasteless to escape detection. Consequently, a percentage of non-fatty solids below the normal is enough to show with a high degree of probability that water has been added. Still, it is not a necessary result. The milk might have been mixed with some cheap fatty substance. An offence would have been committed, but not the offence charged, viz., mixing with water. I am of opinion that the certificate is defective, and that the complaint falls to be dismissed. The objection is not one of much substance, but it is something more than a merely technical objection.

Mr. McFarlane asked the Sheriff to state a case for the High Court.

The Sheriff: I do not think that is your proper remedy. The remedy is an appeal, as no proof has been led.

Mr. McFarlane remarked that if his Lordship were right on the point of relevancy thousands of convictions had been obtained on irregular complaints.

The Sheriff: I am not sure that my judgment would have applied to the law as it stood before the recent Act of 1899. For the first time the analyst's certificate is now made part of the complaint.

Mr. McFarlane said that the form of certificate used in the present case for added water was the form recognised by the Public Analysts of Great Britain.

The Sheriff said it would be easy for analysts to state the whole constituents of the sample and they would make themselves safe. His view was that it was enough to state the total quantity of water, natural and added, but less than that would not do.

Mr. McFarlane: Your Lordship draws a distinction between the law now and as it existed previous to 1st January?

The Sheriff: I do not wish to indicate any decided opinion whether this objection would have been fatal before 1st January, but the recent Act has made it fatal.

**SOMETHING NEW FOR MILK SELLERS.**—At Dudley, on June 11th, William Berry, Francis Stockton, Joseph Smallman, and Letitia Pratt, milk sellers, were summoned for delivering milk in cans not bearing the names and addresses of the sellers. Mr. Brown (Inspector under the Food and Drugs Act) said the Act affecting the cases only came into force last January, and that being so he was prepared to withdraw the summonses on payment of costs. Berry asked for an adjournment so that he could consult a solicitor, and this was granted. Mrs. Smallman (who appeared for her husband) and Mrs. Pratt agreed to pay the costs, and Stockton's case was gone into. Stockton pleaded that he did not think it necessary to have the small cans marked. Mr. Barradale (Magistrates' Clerk)

said if the milk out of the large tins was put into small ones and so delivered, the name and address need not be put on them, but in the case of tins containing milk separately delivered the name and address must be on them. Defendant was ordered to pay the costs.

**PRESERVED BANANAS PROSECUTION.**—John Myers, dealer, 95, Eastfield Street, Stepney, was summoned for unlawfully having in his possession 40 bags of bananas which were unsound and unwholesome, but were intended for the food of man. Mr. G. H. Young prosecuted on behalf of the Poplar District Board of Works. James Bullock, sanitary inspector, saw the defendant on May 5th, at Chrisp Street, Poplar. There were three boxes of preserved bananas on his stall. These looked very good, but he gave the public bananas done up in paper bags, and the witness, being suspicious, sent his wife to purchase two. He found these quite unfit for food. The witness then went to the stall and said who he was. He opened six of these bags and found them thoroughly bad. The defendant then refused to let him open any more, but a Police Constable interfered, and he went through all the 40 bags and found them all unfit for human food. The Defendant: What became of the two boxes you seized? The Witness: They were stolen from the cab on the way to the court. The defendant said that the fruit was absolutely good. It was the same as was sold at Whiteley's, the Stores, and Spiers and Pond's. He gave them to his own family. Dr. Alexander said that he examined the bananas in the bags. They smelt and tasted like stale beer, and had a fungoid growth and mould on them. Those in the box were quite different. They were pleasant to taste, and a valuable addition to the food of man. The defendant said that the gentleman he bought them of promised to be here to fight the case, but he had evidently made a mistake in the date. He would have the case settled at once. Mr. Mead fined him 40s. and costs.

**COCOA PROSECUTION.**—At Nottingham, on June 8th, Messrs. Neilson and Co., Ltd., whose headquarters are at Edinburgh, were summoned for selling adulterated cocoa at their shop in Denman Street, Nottingham. It appeared from the evidence that on the 26th April, Mr. Crowther Betts, inspector of nuisances, sent his boy to the shop—No. 255—for half-a-pound of cocoa, for which he paid 2½d. After he had been served, Mr. Betts himself went into the shop, and having acquainted the manager with the fact that he was an inspector, he proceeded to divide the cocoa into three parts. One he left at the shop, another he submitted to the City Analyst (Mr. Trotman), and the other he kept himself. The Analyst found the sample to contain 25 per cent. of sugar, and 35 per cent. of starch. Mr. Day (who prosecuted on behalf of the authorities) did not ask for a heavy penalty, as it was merely a case of negligence, and not one of fraud. Mr. G. D. Hazeldine, the solicitor for the defence, said his clients usually marked the tins, "Mixed Cocoa," but they had run out of labels. The Magistrates imposed a fine of 40s.

**SPIRITS OF WINE PROSECUTION.**—At Doncaster, on June 9th, Thomas Roebuck, grocer, Askern, was summoned for selling adulterated spirits of wine. Three ounces sold by defendant's wife was found to contain 3.27 of water. Defendant said he sold the spirit exactly as he received it. He was ordered to pay the costs.

**SPIRIT OF NITROUS ETHER PROSECUTION.**—At Sheerness (Kent), Mr. D. Sturdy, chemist and druggist, was summoned for selling deficient spirit of nitrous ether. For the defence it was stated that the sample submitted to the analyst had been placed in a defective bottle, and that seeing that it was not analysed for eleven days after its purchase the wonder was that it had any of its active properties. It was pointed out that eleven other samples taken at Mr. Sturdy's premises on other occasions turned out to be correct. The Stipendiary dismissed the summons, stating that he was not satisfied that the sample was in the same condition when analysed as it was when purchased.



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## Food and Sanitation.

SATURDAY, JUNE 23, 1900.

### Important High Court Decision.

#### Beer Barrels as Measures.

#### Short-Measure Brewers Brought to Book.

AN important question as to the marking of beer barrels came before Mr. Justice Grantham and Mr. Justice Channell in the High Court on June 18th, in the action Hayley v. Taylor, on a special case stated by the Justices of Keighley. The appellant was the Chief Inspector of Weights and Measures of the West Riding County Council, for whom Mr. Cripps, Q.C., appeared.

In December last Mr. T. Ecroyd, an innkeeper at Keighley, ordered from the respondent's traveller a barrel and received what purported to be a barrel containing 35 gallons. The County Council tested the barrel with an imperial standard measure, and found that it would only hold 33 gallons. The barrel had not been stamped and verified as required by the Act. It was contended by the appellant that as the only method adopted by the respondent of ascertaining the quantity of beer invoiced by him to his customer had been to fill up a barrel which purported to contain 35 gallons, such barrel had been used as a measure within the meaning of the Act, and consequently it ought to have been stamped as such. The Keighley Justices found as a fact that the barrel was used as a measure by the parties to the sale, but held that Section 44 of the Weights and Measures Act cast on the County Council the duty of providing reasonable facilities to traders to have their weights and measures verified and stamped, and that the Council having failed to discharge that duty, were not entitled to prosecute the respondent for using an unstamped measure of that description. It appeared to them that a conviction under these circumstances would be unreasonable and unjust, and they therefore dismissed the information.

Mr. Cripps submitted that the magistrates had no option but to convict under Section 29. The question whether the County Council performed their duties under some other section was an entirely different matter altogether, and could have no bearing on the case.

Mr. Justice Grantham said they thought, on the finding of facts, appellant was entitled to have the appeal allowed with costs. The case would go back to the magistrates with directions to convict.

Mr. Justice Channell concurred.

At Liverpool, on June 14th, several prosecutions by the Weights and Measures Department of the Corporation were proceeded with. Clara Coffey, tobacconist, 76, Commercial Road, was summoned for having in her possession for trade purposes an unjust scale. A fine of 20s. and costs was imposed. The inspector stated that he found a piece of paper under the scoop.—John Jones and Sons, engineers, Cotton Street, were fined 10s. and costs for having two unjust weighing machines.—Beatrice Lawrence, fish dealer, Myrtle Street, had to pay a fine of 10s. and costs for having in her possession an unjust weight. Superintendent Jones prosecuted, and the cases were proved by Inspectors Smith and Deane.



## Dietetic and Hygienic Notes.

### Meat Scandal at Cardiff.

At the last meeting of the Cardiff Public Health Committee Mr. Robert Hughes read a statement handed to him by an authority upon which he said he could absolutely rely, and, in view of the seriousness of the allegations therein made, the statement is given in extenso. It was in these terms:—

#### "MEAT INSPECTION.

"Butchers are allowed to bring to market beef, mutton, pork, veal, lamb, and goat. Calves that die just after birth, which is called stink veal, or from scouring, which is diarrhoea, or from accident, then inflammation sets in which causes the calf to be slaughtered. To save the carcass the butcher gets the caul fat (membranes of the bowels) from a healthy sheep and puts it over the veal to deceive the public. Unless the inspector has a knowledge of butchering he would not notice the defects. Sheep this time of the year (the lambing season) are always dying from non-attention; when they are giving birth to lambs they catch cold, puerperal fever (milk fever) sets in or scouring, and to save the carcass they skin the sheep and sell it. Butchers go about the country buying sheep of this description; they cover them well up and put them in the ice-house until they get frozen; then they bring them to the market or hawk them about the streets, especially common lodging-houses. There is always a suspicion that when butchers hawk meat about lodging-houses it is either diseased or left from the market. Butchers when hawking diseased meat about lodging-houses generally take a few pieces of fresh, healthy meat for fear the inspector may examine what they have. It would be an advantage if the inspector of lodging-houses had a knowledge of the characteristics of good and bad meat. Butchers at the present time if they have any suspicion about their cattle don't take them to a public slaughter-house to kill, because they might be condemned by the veterinary inspector and destroyed. They take them to a private slaughter-house in the country and have them killed, or kill them at the farm where they bought them. Therefore, all meat that has been killed in the country should be inspected through a clearing house, and certified that it is fit for the food of man. There is no restriction on country butchers as to meat inspection; they are allowed to bring what they like as regards meat.

"Cattle dying from any disease or accident are immediately 'stuck' to get as much blood as possible from them, so as to save the carcass and escape detection. The organs and intestines are generally buried if there is any disease to be seen. Butchers take good care not to bring the meat to the market until the gas is lighted, and they always conceal it under the counter, and bring it out bit by bit, as they sell it. Butchers do not sell diseased meat alone. They buy some pieces of good meat from other butchers, and mix it with the diseased. Goats, which are very poor and lean, are dressed for lamb. Butchers put on a healthy caul fat, which they get from sheep, so as to deceive the public. It is known and seen by other butchers that legs of old boar pigs have been sold for legs of veal by skinning the pigs."

Mr. Hughes, having read the report, repeated that he could vouch for its accuracy.

\* \* \* \*

### Tablet Medicines Condemned.

SO-CALLED Chemists' Travellers have been troubling a medical correspondent of the *British Medical Journal* until, at last, he has written to complain of their methods and to ask some one to suggest a method of stopping the constant touting for orders by wholesale druggists and other firms.

Every day, he says, circulars are received through the post, or samples which have been forwarded for approval and purchase by medical men, this method being adopted largely by American houses, while certain British firms are to a certain extent following the example set. Only the other day this M.D. received a letter from an American graduate, who represented a wholesale drug store, recommending some tonic, and he is greatly troubled by commercial travellers and representatives of various firms, who are constantly gaining admission to his waiting-room during consulting hours and at other inconvenient times. He has a notice in his hall to the effect that he cannot interview commercial travellers who call on business, and that has had some effect in stopping them, but he thinks the only effectual remedy will be for medical men as a body to return or destroy all letters, circulars, or samples received from such sources, and to refuse to see any representatives from wholesale druggists or instrument makers. In conclusion, he says: "A firm with a German name is continually forwarding medical tablets in pill-boxes glued on to the envelope. These I do not open, as I consider that these chemists simply require professional men to find a sale for their drugs and to serve their own ends. Medical tablets I never recommend or prescribe. Only recently a patient of mine, when in the country, had some maker's ergot tablets written down in a prescription, to be taken every four hours. The consequence was that they were purchased at various shops and at various times and taken *ad libitum*! I discovered this after about fifteen or sixteen had been taken in about twenty-four hours." The *Pharmaceutical Journal* says with reference to the complaint, all we can say is that medical men have brought the trouble on themselves by encouraging the makers of medical novelties to an undue extent. If the remedy suggested by "M.D." were generally applied it would undoubtedly prove efficacious. Meanwhile, it rests entirely with medical men to apply a remedy, and none will thank them more than duly registered chemists who strive continually to conduct their business in a legitimate manner. It is said that Sir William Broadbent on one occasion mildly rebuked a doctor who had called him into a consultation. Noticing a bottle of a certain make of tablets, he asked if they had been prescribed. The doctor admitted that he had prescribed them. Sir William then stated three reasons why such preparations should not be prescribed. "First," he said, "there is the danger of inaccurate doses; second, it is not fair to your patient and not fair to yourself."

\* \* \* \*

### Glucose in Marmalade.

At a meeting of Glasgow Town Council on May 28th, it was stated in the minutes of the sub-committee on the Sale of Food and Drugs Act that they had had under consideration a letter from Mr. P. Fyfe, sanitary inspector, enclosing four certificates he had received from Dr. Clark, one of the city analysts, referring to marmalade which contained from 13 to 30 per cent. of starch glucose. Mr. Fyfe wrote:—"I understand from the better-class manufacturers in the preserve trade that in certain jams and jellies a small percentage of starch is very beneficial, but that, in their opinion, it should never exceed 10 per cent. In view of the committee's observations on the admixture of starch glucose with golden syrup, I deem it expedient to take their opinion on these cases before reporting them in the usual way to the Procurator-Fiscal." The sub-committee, with the approval of the Health Committee, agreed to recommend that the sanitary inspector be authorised to instruct prosecution of the case reported by him in which the percentage of adulteration is highest, viz., 30 per cent. The council approved.



### The Dietetics of Bread and Butter.

NO ONE can tell how long bread and butter have been used as a dietetic combination, says Hemmeter (*Maryland Medical Journal*), but it is probable that the combination is very nearly as old as the use of bread alone. In his excellent physiological work, "Die Arbeit der Verdauungsdrüsen," Prof. J. P. Pawlow has shown that fats inhibit and sometimes may arrest the secretion of HCl in the stomach, but, at the same time, stimulate the secretion of the pancreas. Here the most modern physiology has given an instructive explanation of the instinct by which the human race has for ages been led to associate bread and butter. We all know that fats cannot be digested very well in an acid medium. It is also known that carbohydrates, such as bread, which contains on an average between 50 and 60 per cent. of starchy matter, cannot be digested very well in an acid medium. Fatty foods are difficult to digest, and those afflicted with weak stomachs must avoid them. If fat is present in the gastric chyme to any considerable extent, it arrests the secretion of acid gastric juice in its own interest, and in that way impedes the digestion of the albuminous or proteid bodies. For that reason the combination of fatty and albuminous food is difficult of digestion, and only agrees with people who have a strong stomach and an intense appetite, the explanation being that the albuminous food requires an acid medium for its solution in the stomach, and actually stimulates the acid secretion, whereas the fats require an alkaline medium, and depress the acid secretion. The combination of bread and butter is not difficult of digestion, because the bread contains comparatively little proteid or albuminous matters—from 6 to 12 per cent. on the average—and, therefore, it requires little acid for its digestion; hence the fat (butter), in depressing the acid secretion, favours the transformation of the large percentage of starch in the bread into maltose and dextrose. On the other hand, the fat is a stimulant to the secretion of the pancreas, and thus an abundance of ferments is secreted into the duodenum and thus secures the digestion of the starch as well as the albumen and fat. Fat taken alone is, as a rule, not indigestible, because it does not interfere in that case with the digestion of other substances. There is no conflict between the various chemical constituents of the food in this instance.

In those cases in which an excessive activity of the gastric glands has led to hyperacidity, fat should be used as a dietetic medication, because it depresses the secretion of the acid. This scientific explanation of the synergistic action of bread and butter is one of the first steps in scientific dietetics. As scientific men occupy themselves more and more with such questions we hope that dietetics may be lifted from empiricism to a more exact science. It is to be regretted that comparatively few men with scientifically trained minds have occupied themselves with dietetic questions in the laboratories. There can be no more promising and useful field of work. The harvest is plenteous, but the labourers are few.

\* \* \* \*

### How to Prevent Tinned Salmon Poisoning.

THE frequency of deaths and severe illnesses caused by eating tinned salmon and other preserved foods shows that some means should be adopted to prevent poisoning by tinned food, because it is not too much to say that the poisoning is usually the consumer's fault. An inquest held at Aston on June 11th is worth studying in this respect.

Mr. J. J. Wilmhurst (District Coroner) held an enquiry into the death of Florence May Neale, aged 6½ years, the daughter of a gunsmith of Park Lane, Aston. On Wednesday the family partook of tinned salmon for tea. Some was left in the tin and put on one side, and deceased afterwards consumed it. On Friday a rash was noticed, and the child's limbs became rigid, and she died in the evening. Dr. Smith said all the appearances pointed to the child

having taken irritant poison, and he regarded it as having been caused by the salmon though he had been unable to trace ptomaines. Death was due to collapse from inflammation of the bowels caused by some irritant. The jury returned a verdict of "Death from poisoning after eating tinned salmon." We would draw attention to the words *left in the tin*, because in spite of repeated warnings of the danger of leaving tinned foods in the tins when opened, there is no doubt that large numbers of people do this and thus cause death and disease, and create an unjust prejudice against preserved foods. The packers of tinned foods we think could do a great deal to prevent the poisonings were they to print on the labels encircling the tinned meats fish or fruits some such wording as the following:—

"Important Notice: When opened do not leave the contents in the tin but turn them out on to a glass dish or plate."

Our readers in giving evidence in any future cases of tinned food poisoning would do well to call the attention of the public and the jury to this precaution.

\* \* \* \*

### Adulteration of Australian Wines and Beers.

NOTHING has been more remarkable during the discussion of the revelations made recently by Mr. Percy Wilkinson concerning the adulteration of wines and beers, says the *Melbourne Age*, than the attempts that have been made to minimise the extent to which salicylic and boracic acids are used and the deleterious effects thereof. These attempts demand vigorous investigation.

Owing to the peculiar methods of the Customs department, it is impossible to authoritatively state the exact quantities of these acids that are imported into the colony. Thanks, however, to the courtesy of Mr. Fripp (Roche, Tompsitt and Co.) and of Mr. Grimwade, M.L.C. (Messrs. Felton, Grimwade and Co.), we have been enabled, not only to get something like approximate figures, but also some idea as to the trades that are the principal purchasers of the acids. Apparently the two firms import in each year about 1 ton 2 cwt. of salicylic acid, and no less than 32 tons of boracic acid. Nearly half the salicylic acid is sold to chemists, and it is presumably from them that vigneron or wine merchants obtain their supplies. Of the boracic acid, the vast proportion is sold for preserving purposes. Butter makers, sausage makers, butchers, jam makers, and pork curers are amongst those who use it in connection with their business. It is evident that preservatives are in every day use, and probably examination would reveal their presence in the dishes on almost every dinner table.

In order to ascertain the attitude of the medical profession towards this adulteration of foods, the opinion of Dr. Stawell, Victorian editor of the *International Medical Journal*, was sought. Dr. Stawell confined his remarks in the main to the adulteration of Victorian wines, and at the outset referred in terms of eulogy and appreciation to Mr. Wilkinson's startling analysis of wine samples. He then proceeded: "The use of salicylic acid in wine or food means that the food material would have undergone decomposition without its use. It is not a flavouring or a colouring material, but an acid used to prevent gross and poisonous changes taking place in the food. It is an antiseptic. Supposing it could be shown that salicylic acid would do no harm, that would not in the least remove the objection to its use. It is used to preserve unsound products from becoming worse, and, therefore, obviously unfit for consumption. It has been shown by chemists and others working at the subject, that the acid, even used in small quantities, greatly impair the processes of digestion. The experiments bearing out this connection can be read in the journal of the American Chemical Society and other works. Apart from all this, there is the evidence of the Germans, who, for the protection of their citizens, have passed a law absolutely prohibiting the use of the acid in wine at all. You must remember that the



addition of the acid means, in most cases, defective methods of manufacture and the use of impure ferments. The Germans, guided by common sense and expert opinion, have accordingly made their law absolutely mandatory."

Another physician, who declined to allow his name to be published, made a statement, the kernel of which was contained in the following observations:—"There are certain individuals to whom salicylic acid is nothing less than poisonous, and I can quite conceive of circumstances in which the presence of the acid in wine would be very bad. It is largely a question of the quantity and of the condition of the stomach when the wine is drunk. Taken on an empty stomach, wine with the acid would be injurious, whereas if the stomach were full, nothing serious might result. Indeed, I know of men suffering from gout and rheumatism who derive benefit from taking ale containing salicylic acid. However, there is no doubt about it

that the acid should not be in the wine. We should have a Government department here, under the control of a young up-to-date bacteriologist, to control the industry.

\* \* \* \*

#### A New Filling Machine.

ONE of the features at the Chemists' Exhibition held at Manchester this week, was a demonstration given by the Roberts' Filling Machine Company, which was engaged filling a wide range of liquids. The ease and thoroughness with which it is cleaned was strikingly proved when it was changed to bottling Clark's "Optimas" Coffee Extract. The exceptional delicacy of the flavour and bouquet of this extract, which distinguishes it from all other extracts, renders it very difficult to bottle mechanically, but this the machine was doing to the entire satisfaction of Clark's Coffee Extract, Ltd., the South Lambeth Bakers.

## Cold Storage Notes.

### Storage in Dublin.

THE enormous water power of the Liffey near Dublin, which has for a great number of years been to a considerable extent going to waste, is at last to be utilised. Every citizen or visitor to Dublin who elects to pay a visit to Lucan either by electric tram or by driving through the Phoenix Park and the lower road, must have been forcibly reminded of the manufacturing decline of the country, as weir after weir is passed the water tumbling idly over, the buildings in which hundreds once got employment, if not absolutely in ruin, rapidly approaching that state. About twelve months ago Lord Iveagh, Mr. T. M. Healy, M.P., and Mr. Chaytor purchased some of these water rights and are utilising them for electric lighting and other purposes, and quite recently the Irish Sterilized Milk, Ice, and Cold Storage Company, Limited (amongst whose directors are such well-known citizens as Mr. William Nolan, Burgh quay, representing the butter trade, and Mr. Patrick Greaves, C.C., the meat trade, and Alderman Stephen O'Mara, of Limerick, with consulting expert, Mr. William Lofmark, of Ormond quay), with commendable enterprise have decided to use the power of the weir at Island Bridge familiar to all who have had the pleasure of attending at the Dublin University Regatta, whose fine stand and club house are built opposite to it. They have had the power, during the past fall and winter, carefully estimated by different engineers, who have reported that the average power for three-fourths of the year is 750 horse, with a minimum of 200 horse-power during summer months. This the company purpose in the first instance making use of for the manufacture of ice. They have in course of erection at the present moment, and almost complete what will be when finished the largest ice manufacturing plant in Ireland, and they intend doubling this within the year. As it is well known that the power required to turn out thoroughly hard frozen ice is very considerable, as a matter of fact in practice it is found to amount to three-fourths the total cost of manufacturing the article, and the company believe that they, having the control of this very large water power, will be in a position to manufacture ice at a price hitherto impossible by plants either driven by steam or partly so. They are also fitting up on the latest and most improved principles the large pile of buildings as cold stores. The whole when completed will give storage capacity to any required extent, and they anticipate, with the facilities of water transit which they also possess alongside their stores to the different wharfs, to be able to warehouse goods at a minimum charge. The company

have already established large depots in the county for the reception of milk, and their handsome new premises at Islandbridge for this department they have just got possession of from their contractors, Messrs. A. and J. Main, Leinster Street. Their sterilizing plant is at present in the course of erection, and will be complete in a few days.

\* \* \* \*

### The Isle of Man Pure Ice and Cold Storage Company, Limited.

SPEAKING at a meeting of this Company, Mr. Parkinson said although the Company was not in a position to pay a dividend yet, financially it stood in a very good position, inasmuch as that although there had practically been nothing written off for depreciation, they did not consider that the property had depreciated in any way whatever. It was only finished last year, an amount of money had been spent on it, and practically six months' work had been spent in putting the place in repair by the Company's own men, which had cost something, for which there had been no charge put down. That they took as being equivalent to writing off so much depreciation. No doubt this year they would be able to sell ice for a little more money, and he thought there could be no doubt that in a very little while the Company would be able to pay a dividend. They were in the happy position of never yet having to work at a loss. The Company had always been able to pay the interest on debenture stock, and still holds its head above water. On the whole he thought the Company was in a very fair way for earning a dividend for the ensuing year.

Mr. Rooth said he thought the prospects of the company for the future were very bright. Speaking of the price of imported ice and its use, he said he bought a large ice safe at the Health Exhibition sometime in the seventies, and had been a large user ever since. He had been going through his books, and he found that, on the average, for twenty years the ice he used had, taking loss of weight and carriage into account, cost 7s. 6d. per hundredweight. Going into the rate at which the ice made by that company was sold, he averaged it to be 126 lbs. for 1s. If they raised the price to 2s. 6d. per hundredweight, it would only be one-third of the price it could be got from Liverpool, and at that price it would be a boon to the users in the island, and it would pay an amply good dividend to the shareholders.



### Risks of the Frozen Meat Trade.

ONLY the exercise of the greatest care enables those engaged in the frozen meat trade between the Colonies and Great Britain to avoid a large wastage of material as there is a great liability to loss when stringent measures are not taken in carrying out the refrigerating process in its most minute details. The animals intended to be frozen are slaughtered and dressed overnight and the freezing process

begins next morning before the heat of the day sets in. When thoroughly frozen the carcasses are enveloped in wrappers and then stacked. A minimum of two days is allowed freezing sheep, and four or five days for beef, but the general practice is to allow a longer time for freezing in both cases. This season there have been numerous complaints about "bone taint" in the frozen carcasses offered for sale in the leading British centres of consumption.

## Weights and Measures Notes.

### Leicester Town Council and the Inspection of Weights and Measures.

MR. J. J. C. MINNS, Inspector of Weights and Measures, in the course of his annual report submitted to the Markets Committee, states the work of outdoor inspection has increased, and during the year 4,158 places of business were visited, and in these 6,259 weighing instruments, 33,817 weights and 2,156 measures were examined. Twenty weights and five measures were seized, and thirteen persons were prosecuted, all of whom were convicted, the fines and costs amounting to £13 1s. The estimated number of shops, etc., in the borough was 4,500. The weight of butter, with one exception, had been found satisfactory in the general market. Forty-seven loads of coal were weighed, and one person was prosecuted for inserting an incorrect tare weight on a coal ticket, and fined 20s. and costs. Four hundred and five bags of coal were weighed, and one person was fined 20s. and costs for short weight under this bye-law, and another 10s. and costs for not being provided with a scale under the same bye-law. The loaves purchased were 29, and though 11 persons had been cautioned under the Bread Act, no case had been sufficiently serious to be taken before the Magistrates.

\* \* \* \*

### Sheffield Weights and Measures.

MR. G. W. CATCHPOLE, the Sheffield Chief Inspector, in his annual report for the year ending March 24th says:

The Inspectors have made 12,845 visits, with the following results:—

	Weighing Instruments.		Weights.	Measures.	
Examined ... ..	14,594	...	73,468	...	65,989
Found Correct ... ..	13,104	...	53,793	...	65,556
Required Adjustment ...	1,318	...	19,457	...	377
Unstamped ... ..	167	...	6	...	43
Seized ... ..	5	...	212	...	13

There were 131 persons reported to your Sub-Committee for having in their possession weights, measures, or weighing instruments seriously incorrect; 16 persons were reported for offences against the regulations dealing with the sale of coal; and 8 persons for contravention of the Explosives Act and Orders in Council—making a total of 155 persons reported.

Prosecutions were instituted against 63 persons, all of whom were convicted or otherwise ordered to pay the costs and give up the unjust instruments, the penalties imposed amounting to £49 16s. 6d. Nine persons appeared before the Sub-Committee for various offences under the Weights and Measures Acts and were reprimanded, and your Chief Inspector was instructed to caution the remaining 122 offenders. Cautions have also been given to traders in numerous instances for minor infringements of the various Acts of Parliament under the supervision of the Department.

In the previous year, 134 persons were reported and 39 were fined, the penalties amounting to £28 8s. 6d.

During the latter portion of the year, special attention has been given to the sale of coal. Your Inspectors in carrying out the regulations have visited the premises of retailers of coal, and intercepted in the street vehicles from which coal was being sold in sacks, 15 cases of serious infringements of the regulations were detected, and the offenders fined.

## Official Reports and Notes.

### Baking Powder Prosecutions in Wiltshire.

SOME members of the Wilts County Council, at a meeting, complained of the manner in which prosecutions were instituted.

Mr. Walker said he noticed that a large number of poor shopkeepers had been fined—some as much as £5, and others 1s. and costs—for an offence which was not an offence until January 1st—viz., the sale of baking-powder containing alum. In one case he noticed that the defendant was simply cautioned by the magistrates: and that would have been the proper course for the council to take. They should have issued warning notices to shopkeepers before taking proceedings.

Mr. Shawyer said in a case where a man sold baking-powder which contained at least 38 per cent. of alum the magistrates imposed a fine of 1s. and 7s. costs, whereas in another case, when the amount of alum was only 14 per cent., a fine of £3 was inflicted. That showed the difference there was in the administration of the law in different parts of the country.

Mr. Withy said that immediately the Act came into operation inspectors were sent round purchasing samples of baking powder and ordered to take proceedings. He thought it would have been more dignified if some intimation had been given to shopkeepers so that they could have got rid of the adulterated article.



The Chairman of the Sanitary Committee said it was outside the power of the Council or the Sanitary Committee to say what fines should be inflicted. He maintained that it would have been a dangerous precedent to issue a caution to shopkeepers, because they would have come before the court and said, "We have been warned upon this and that point, but upon the point on which you wish to proceed we have received no warning," and a conviction would never be obtained.

Mr. M. H. N. Storey-Maskelyne condemned the imputation that any shopkeeper in Swindon or the Northern part of the county had been persecuted. The committee had never had any names before them. The samples and reports were submitted with numbers attached, and it was upon those numbers that they decided whether proceedings should be taken or not.

\* \* \* \*

#### The Cheshire Chief Inspector on an Ingenious Fraud.

THE Chief Inspector says:—"During the quarter 205 samples have been forwarded to the public analyst, and of this number fourteen were found to be adulterated, including three butters. One of the cases of adulterated butter is worthy of special mention, as the method of carrying out the fraud is, so far as I am aware, a new one.

In this case the business was carried on at a private house, and the 'butter' was only delivered to regular customers for whom orders were solicited, the seller explaining that as the butter came direct from a relative in Ireland he was able to sell it at 2d. or 3d. per pound below the shop prices. A fine of £3, including costs, was imposed in this case."

\* \* \* \*

#### Purity of Agricultural Seeds.

THE Right Hon. W. H. Long, M.P., President of the Board of Agriculture, has appointed a Departmental Committee to inquire into the conditions under which agricultural seeds are at present sold, and to report whether any further measures can with advantage be taken to secure the maintenance of adequate standards of purity and germinating power.

The committee will consist of the following members, viz.:—The Earl of Onslow, G.C.M.G., chairman; Sir W. T. Thiselton-Dyer, K.C.M.G., C.I.E.; Sir Jacob Wilson; Mr. R. A. Anderson, secretary of the Irish Agricultural Organisation Society; Mr. R. Stratton, The Duffryn, Newport (Mon.); Mr. Martin J. Sutton, Henley Park, Oxon.; Mr. James Watt, Knowefield, Carlisle; and Mr. David Wilson, Carbeth, Killearn, N.B. Mr. A. E. Brooke-Hunt, of the Board of Agriculture, will act as secretary to the committee.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

#### The Sale of Tea in Paper.

LANGLEY V. BOMBAY TEA COMPANY (LIMITED).

This was an appeal from a decision of the Justices of the city and county of Newcastle-on-Tyne, on a special case stated by the Justices and heard on June 13th.

Mr. Robson, Q.C., and Mr. Jacobs appeared for William Langley, the appellant; Sir E. Clarke, Q.C., Mr. Joseph Walton, Q.C., Mr. Wills Chitty, and Mr. C. Williams represented the Tea Company, and Mr. H. Avory and Mr. Corrie Grant appeared for Brook, Bond and Co.

Mr. Robson said the point raised by the case was whether a false trade description, as applied under the Act, had been used. He took it his business was to show that the Merchandise Marks Act was worded in terms sufficiently wide to cover a verbal false trade description as well as a written one—that was to say, if a tradesman said an article was China tea when it was not, or that a parcel weighed half a pound when it did not, that came within the wording of the Act. That was really the substantial point raised. The case stated by the Justices was that on December 2nd, 1899, the appellant went to the respondent's shop, 76, Clayton Street, Newcastle, and asked for two half-pounds of tea. He was served, and paid 2s. 6d. The parcels were taken to Mr. William Taylor Denton, inspector of weights and measures. Each packet bore the words: "The weight of this packet, including the paper, is half a pound." Under the string of each packet was placed a ticket on which was printed, "The Bombay Tea Company (Limited), 50, Bull Street, Birmingham, half-pound cheque for tea, coffee, or cocoa." On presentation of these

cheques the applicant was entitled to some article of trifling value as a present or by way of discount on the purchase. On the packets being weighed one was found to contain 144½ grains less than half a pound, and the other was also short, but including the paper in each case the weight was over the half pound. It was contended by the appellant that as there was not a half pound of tea in each packet it was a false trade description. The Justices were of opinion there was not a false trade description, and they dismissed the information. The question for the Court was, whether the Magistrates were, under the circumstances, right in dismissing the information. In this case the shortage amounted to 1-lb. of tea in 27-lb., and, taking the tea at the value of 1s. a pound, it made a considerable difference, as the value of the paper would be only some 1½d. per pound. He submitted that an offence had been committed under the Act, and that the case should be remitted to the Magistrates for trial.

Without calling upon Counsel on the other side,

Mr. Justice Grantham said in his judgment the Magistrates were right in the course they had taken. In this case the tradesman had applied a description that it was not a half-pound of tea exclusive of the paper. To say that the master or servant had applied something to it that was not applied, was straining the Act in a way that it had never been strained before. He was of opinion they would not be justified in saying such a method of carrying on business was contrary to the Act of Parliament.

Mr. Justice Channell concurred.

The appeal was thereupon dismissed with costs.

### Appeal to Quarter Sessions.

#### Milk.

MR. MCCARTHY, APPELLANT; SERGT. ROSS, RESPONDENT.

This was an appeal from the decision of the magistrates at Queenstown Petty Sessions on 23rd May imposing a fine of 10s. and costs on defendant, the charge being that he



did unlawfully sell to the complainant a pint of new milk of the quality and substance demanded, being deficient in fat to the extent of 16 per cent.

Mr. F. J. Healy, B.L. (instructed by Mr. A. H. Allen, solicitor), appeared for the defendant.

Sergeant Ross gave evidence of having purchased a pint of milk from the defendant's servant, Chas. McCarthy, and had it analysed. Previous to purchasing the milk the boy gave him a notice issued by defendant stating that he would give no guarantee as to the title or quality of the milk. The analyst's certificate showed the milk to be deficient in fat to the extent of 16 per cent.

For the defence,

Julia Holland deposed she was a servant in the employment of defendant. She milked the cows on the morning in question with two others. She put the milk in a churn. She neither skimmed the milk nor added water nor skimmed milk to it, nor did she see anyone else do so. She saw the churn being sent to town afterwards.

Patrick Quinlan gave similar evidence.

Patrick McCarthy, the boy who brought the milk into town, deposed that he in no way tampered with it.

Mr. McCarthy, the defendant, was examined, and stated that in consequence of decisions by the magistrates at Queenstown Petty Sessions, he issued the following notice to his customers:—"Samples of milk from this dairy were frequently submitted for analysis to the public analyst. It was on every occasion pronounced to be milk of excellent quality. The proprietor will continue his endeavours to sustain the reputation he has so long maintained for supplying to his customers milk of the best quality. Owing to various causes, principally our changeable climate, and the length of time cows must be left without milking between the evening and the morning milkings, it is difficult to always supply milk of the quality required by law when it is sold as new milk. For this reason intending purchasers of milk from this dairy are hereby cautioned that the proprietor gives no guarantee whatever as to title or quality of any milk sold by him or for him, that he will not be responsible for any deficiency in the quality of it, and that if the milk is not accepted by the purchaser subject to these conditions it must be returned at once." Continuing, he said that the milk in question was in no way tampered with, and it was delivered as it came from the cow.

Cross-examined by Mr. Rice, he said that the cows were fed on hay, mangolds, and grains.

Are you aware that that is the very worst feeding for the quality of the milk and the best for the quantity?

Witness: I consider it the best feeding.

Mr. Rice: And you get a notice served to save yourself from the public Act of Parliament.

His Honour (to witness): You made a study of the Act of Parliament, and you took great trouble to frame that notice? I did.

His Honour: You made a mistake; you should be sent to the Bar.

Witness: Thank you for the compliment, your Honour. (Laughter.)

His Honour: But this notice does not cover his intention. The Act of Parliament under which the defendant was summoned was intended for the protection of poor people who bought milk and other articles of food, and extreme ingenuity had been resorted to over and over again for the purpose of defrauding these poor people, and not giving them value for the two or three pence they spent, perhaps, on the only nutriment they could obtain. Therefore it was that this Act required to be strictly and sternly enforced, and as far as he (the Recorder) was concerned it would be strictly and sternly enforced, although

it may get a milder interpretation from other men. In this case the milk was sold to the inspector as new milk, but it was accompanied by the most injudiciously drawn notice, which did everything in the world except protect the purchaser, and in his Honour's opinion that notice did not cover the present case. This milk was sold as new milk as it came from the cows that morning, and the notice did not protect him in such a case as that. It protected him in this way, that a herd of cows won't always give the same quality of milk, but it left untouched the fact that that was the average milk as it came from the cows that morning. The milk was submitted to the public analyst, and the result showed a tremendous deficiency in the milk, which was entirely below the standard, and his Honour was asked to infer that because the inspector did not find out how it was done, that therefore it was not done, in his Honour's opinion the conviction was absolutely right. If he was sitting on the Bench he would have given a much larger fine. He did not think the fine in this case was sufficient to have a deterrent effect, and he would increase the fine now by doubling it; that would make it 20s. and costs.

MILK PROSECUTIONS.—At Manchester, on June 13th, Moses Berry, of Ackroyd Street, Openshaw, was fined 40s. and costs for selling to Inspector Houlston milk which had had water added to the extent of eight per cent., and Joseph Hayes Gleave, of Grove Farm, Mouldsworth, was fined 20s. and costs for consigning to a Manchester milk company on the 14th ult. milk which had had water added to the extent of seven per cent. Mr. A. T. Rook prosecuted on behalf of the Sanitary Committee of the Corporation, at whose instance the summonses were issued.

At Belfast, Inspector M'Master summoned John McIlroy, Ballytweedy, for having on the 19th April sold milk adulterated with 13.53 per cent. of water in Silvio Street. Mr. Lewis prosecuted on behalf of the Council of the County Borough of Belfast. Mr. Frank Kerr represented the defendant. A fine of £3 was imposed.—Robert and James Clayton, owner and seller, Ballymurphy, were summoned by the same complainant for a similar offence, the percentage of added water being 6.48. Mr. A. McErlean defended. A fine of 20s. was imposed.—Samuel Barron, Ungall, Templepatrick, was summoned by Inspector M'Master for having sold sweetmilk adulterated with 3.12 per cent. of water on the 24th April. A fine of 20s. and costs was imposed.

SPIRIT ADULTERATION PROSECUTIONS.—At Shire Hall, Nottingham, on June 16th, John Blatherwick, landlord of the Chequers Inn, Chilwell, was summoned for selling gin containing 3 per cent. of added water. Inspector Crabtree, who proved the case, deposed to the purchase of a sample of the defendant's gin, which, on analysis, was found to be below the strength provided by statute. Defendant stated that gin was a very "slow trade" at his inn, and the sample tested had deteriorated by evaporation. The Bench directed the defendant to pay the costs of the case, but said there would be no conviction.

At Chesterfield on June 16th, Jesse Charles, landlord of the Cross Keys Inn, Bolsover, was charged with selling whiskey at Bolsover, on May 11th, which was not of the nature and quality demanded. Mr. W. H. S. Crabtree, a county inspector under the Weights and Measures Act, stated that he purchased half a pint of whiskey at the defendant's inn. He informed the defendant's wife, who served him, that the whiskey would be analysed. The certificate of the county analyst, which he produced, stated that the sample contained whiskey, 25 degrees under proof, 91.5 parts, excess of water 8.5 parts. The alcoholic strength was 31.5 degrees under proof, the statutory limit being 25 degrees. Defendant, who pleaded guilty, said he had always been very careful in mixing the spirits, and he could not account for the presence of too much water. Fined £1 and costs.



**MARGARINE-CHEESE UNLABELLED.**—J. Hyde, Cumberland House, 61, Market Street, Westhoughton, was charged at Bolton, on June 13th with not having margarine-cheese labelled and selling margarine-cheese in a paper not marked. Mr. Wilson prosecuted, and explained that the case was taken under the 1899 Act which required margarine-cheese to be labelled when exposed for sale. Inspector Parkinson visited the defendant's shop on the 14th May, and saw, in addition to several cheeses, another cheese which the defendant said was margarine-cheese. It was not labelled, and was uncovered. The sample purchased was wrapped in brown paper. Mr. F. A. Horridge, for the defence, said that the shop was not properly opened when the inspector called. The cheese and butter was covered up, and had been since the Saturday night, it being then Monday, and it was at the request of the inspector that the cloth was removed. He was told that it was margarine-cheese before he purchased, and there was, therefore, no intent to defraud. The Magistrates thought a technical offence had been committed, and he was fined 20s. including costs in each case.

**BUTTER AND MARGARINE PROSECUTIONS.**—At the Bolton Police Court, on June 14th. Tim Shanley, 84, Higher Bridge Street, was charged with having sold butter adulterated, to the extent of 97 per cent on the 5th inst. Mr. Field, who prosecuted, stated that the defendant was employed at a provision shop known as the Irish Dairy, in Higher Bridge Street, and on the day in question a boy, acting for Inspector Spencer, purchased for 10d. what purported to be the best butter. The article was analysed and found to contain fats foreign to butter to the extent of 97 per cent. The shop, Mr. Field added, was a notorious one, there having been no fewer than 10 convictions against the various occupiers. A fine of £5 and costs was imposed, with the alternative of two months' imprisonment.

At Runcorn, on June 18th, Messrs. David and Thomas Watkin, provision dealers, were charged with selling impure butter. An inspector of weights and measures purchased a pound of butter for 10d., and Mr. Carter Bell, County Analyst, certified that the sample contained 100 per cent. of margarine. Defendants pleaded guilty owing to the negligence of the shopman. Defendants were fined a total of three guineas.

At Balton, on June 13th, James Hesketh, shopkeeper, Horwich, was charged with having exposed margarine not labelled on the 3rd inst. Mr. Wilson prosecuted, and explained that Inspector Parkinson went into the shop and saw Mrs. Hesketh. He bought a sample of an article which was apparently butter, as it was not labelled, but before the purchase the Inspector was told that it was margarine. The Magistrates thought the defendant had erred in ignorance, but a fine of 20s. including costs was imposed.—Jane Dearden, of Chorley New Road, Horwich, was similarly dealt with for an offence which was practically on all fours with the others.—Mary Robinson, of Chorley New Road, Horwich, sold the Inspector some margarine that was not labelled, and wrapped it in a plain paper instead of one with the printed word "Margarine" on it. This constituted two offences, and she was fined 20s., including costs, in each case.

## Correspondence.

### Milk as a Food.

TO THE EDITOR OF *Food and Sanitation*.

DEAR SIR,—In your issue of the 16th inst. you quote from a discussion on "Milk as a Food," in which Major H. E. Alvord states :—

"The standard of 3 per cent. of butter fat for food is enough for all practicable purposes, as milk containing 4 per cent. had frequently to be reduced to make it acceptable to

the human stomach. . . . A moderately low percentage was not harmful, condemned sterilization or pasteurization . . . Also on the food value of skimmed milk—100lbs. skimmed milk was *more* valuable than 100lbs. whole milk . . . butter fat was not the valuable portion of milk as a food."

Such reasoning is farcical. A moderately low percentage of butter fat is not harmful. No one says it is ; but it is not beneficial.

We are all agreed as to the dangers of adding preservatives, but in sterilization or pasteurization there is nothing added, which puts it on a different line altogether to the addition of a preservative or anything else.

Concerning the food value of skimmed milk, here the Major's reasoning comes too grossly absurd, to say that in abstracting butter fat from the milk you leave a more wholesome and consequently more valuable product behind, hardly deserves the waste of time in answering it.

He advocates the use of whole milk as a food, then slides on skimmed milk as being the better of the two, declares butter fat of no value, and swears against sterilization because the addition of preservatives is unwholesome.

Let me add a word or two, in milk we have the most perfect food for infants (that is acknowledged by all who know anything of the subject), and it is in the butter fat that the value of this food lies ; for grown up persons who take fat in other forms, then skimmed milk is a useful adjunct in that it contains all the proteid matter. I think a reply in your next issue would be appreciated by your readers.

Yours truly,

F. G. HAWORTH, M.B., D.P.H.,  
M.O.H., Darwen.

### An Extraordinary Cow.

TO THE EDITOR OF *Food and Sanitation*.

SIR,—At the request of the secretary of a dairy company in a very large way of business, I recently took a sample of milk from one of their cows—a pure bred Shorthorn. The cow was milked dry at 6 a.m., and the milk well mixed before I took the sample, and the Public Analyst certified the milk as containing only 2.2 per cent. of fat. A further sample on the same day of the afternoon milking showed 4.7 per cent. of fat. Two other samples of the early morning milk have been taken at intervals of a fortnight but no improvement has taken place, in fact the last sample was rather worse, whilst the afternoon milk continues to be very rich. This cow is about 4½ years old, and had calved three weeks when the first sample was taken. She is fed on as much sweet meadow hay as she will eat, about 1½ bushels of chopped mangolds, 4 or 5 lbs. of oil cake, and about 5 gallons of grains per day. She averages about 16 pints of milk at 6 a.m., 10 pints at noon, and 8 pints at 6 p.m. I advised the discontinuance of the grains, but that has not made any difference.

The cow is a very fine specimen, in first-class condition, and has every appearance of being thoroughly healthy. The company to which she belongs make a speciality of supplying "Special Milk for Invalids," but of course this morning milk they cannot use for that purpose, and have to mix it with other milk to raise the fat above the 3 per cent. standard.

I should be glad to know if any of your readers have met with a similar case, and, if so, could they recommend any treatment with a view of increasing the fat in the morning milk.

I may add that the cow has water only twice a day.

I am, Sir, yours faithfully,

FRED. L. BELL,  
Chief Sanitary Inspector, Portsmouth.



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## Food and Sanitation.

SATURDAY, JUNE 30, 1900.

### Boric Acid in Butter.

At Rhyl County Court, on June 22nd, reference was made to the case of *Roose v. Perry*, in which the question was whether boric acid is permissible as a preservative in Irish creamery butter. It was a case in which Messrs. *Roose and Co.*, provision dealers, sued Messrs. *Perry and Co.*, Limited, butter merchants, Button Street, Liverpool, for recovery of the expenses incurred by them in defending a police court case in which plaintiffs were charged with selling Irish creamery butter which contained ten grains to the pound of boric acid. Messrs. *Roose and Company*, at the police court, produced a guarantee from the defendants that the butter was pure. The defendants declined to pay

the costs of defending the case. Plaintiffs sued the defendants before his Honour, Mr. Horatio Lloyd, who awarded plaintiffs £2 2s. with costs, but gave defendants leave to appeal. His Honour decided that butter containing ten grains of boric acid to the pound was not pure. Defendants took the case to the Divisional Court, and the Judges sent it back for re-trial for Judge Lloyd to decide whether the butter was pure as known in the trade.

Mr. W. H. Pride, defendants' solicitor, now said that he would not trouble his Honour to re-hear the case, but would ask that judgment be entered for defendants with costs. At the High Court Mr. Justice Bingham had said that he would have no hesitation in saying that the butter referred to in this case was pure within the bearing of the words of the warranty. Since the case was before the High Court the parties had come together and had arranged terms which were embodied in a consent, and an affidavit had been sworn in connection therewith. Judgment was entered for defendants, with costs, the plaintiff to pay a sum to the defendants for costs, which sum had been paid, so that there would be no taxation, and the £2 2s. in Court was to be returned to the defendants.

Mr. F. J. Gamlin (Messrs. Gamlin and Williams), solicitors for the plaintiff, said it was an important case, and the defendants evidently thought so, but his Honour was not even now asked to decide that butter containing boric acid was pure butter.

His Honour said that as far as he could see it was a very inconvenient thing. It seemed the butter sold by A to B as people engaged in trade, and which contained boric acid, was pure; but that when it was sold by B to C, who might be an unfortunate consumer, it was not pure.

Judgment was entered for defendants with costs on the terms agreed to.

At Marylebone, Mr. Dennis, solicitor, applied to Mr. Curtis Bennett, on behalf of the Paddington Vestry, for summonses against two chemists for selling a laxative drug, known as effervescent phosphate of soda, which, upon analysis, was found to contain, in one case, three and a-half grains, and in the other, eight and three-quarter grains of arsenic per pound. He said he was advised by the Medical Officer of Health that, if taken in this adulterated state, the drug was undoubtedly dangerous to life, and liable to produce fatal results. He thought the public should know this, and thus be put on their guard. Mr. Curtis Bennett acquiesced.



## Dietetic and Hygienic Notes.

### Chemists and the Purity of Drugs.

THE following frank avowal of rascality appears in the last issue of our esteemed contemporary, *The British and Colonial Druggist*. We think few chemists would endorse this shameful vilifying of their profession:—

“MAGNESIA AND THE FOOD AND DRUGS ACT.

“SIR,—I see you record another prosecution for the sale of magnesia. To me it appears most absurd, for it is contrary to the spirit and letter of the Adulteration Acts. To sell light carbonate of magnesia for magnesia is not an adulteration. It is as much a magnesia as any one of the other kinds, and, what is more, it is what the people want, and expect to get when they ask for magnesia, unless they specify a particular kind. I have sold light carbonate of magnesia for magnesia for fifty years past, and I should not think of selling any other unless asked for a particular kind, such as calcined, heavy or light. Then we know they do not mean the ordinary magnesia. I contend that an inspector prosecuting as announced in your last, should have an action brought against him for defamation and damages.

“Then the defence is always so poor, and implies guilt. Chemists seem to partially lose their heads when they get a notice from an inspector. How often do the public get what they ask for?—seldom ever. We as chemists know what they want, and we give them what they require and not what they ask for. People ask to be served with quinine. Do they ever get it? Never. They ask for cocaine, and even doctors ask for cocaine, and they never get it. We are asked for tincture of rhubarb, tincture of lavender, tincture of cardamoms, tincture of gentian, etc., bismuth lozenges, Epsom salts, and many other articles, and they never get one of them.

“If every chemist sold what he is asked for, there would be work for double the number of doctors and six times the number of coroners. To put a stop to such aggravating, persecuting traps as the magnesia one, is to prosecute the inspector.

“Yours truly,

“Peter.

“June 19th, 1900.”

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### Swine Fever Bacillus in Bacon.

DR. R. M. BUCHANAN, the recently appointed Glasgow city bacteriologist, reports as follows:—“A sample of bacon was submitted for examination by the sanitary inspector on May 7th. It presented numerous hæmorrhagic points throughout the muscular tissue, while the fatty tissues appeared in normal condition. Microscopical examination revealed the presence in the hæmorrhagic foci of a short bacillus, and further bacteriological tests by means of cultures resulted in the isolation of the bacillus and its recognition as the bacillus of swine fever. Although swine fever is not a disease transmissible to man, it would nevertheless be repellent to regard the flesh of an animal suffering from an acute febrile disease attended with innumerable hæmorrhages in the tissues as under any circumstances fit food for man.” In reporting on the case of two girls who were found to be suffering from eruptions in the mouth and on the lips corresponding with foot and mouth disease, Dr. Buchanan says:—“It may be noted that the infection is carried to man by means of butter and cheese as well as milk.” These reports, says the *Grocer*, are interesting, as showing that this latest development of the energetic municipality of Glasgow opens up a new field which may in the future cause considerable trouble to provision merchants in matters which are quite beyond their control.

### Food Adulteration in Massachusetts.

A VERY interesting paper on the character and extent of food adulteration in Massachusetts is published in the *Technology Quarterly* for March. The writer is one of the officials of the State Board of Health, and reference may be made to a few of the numerous practices described by him as illustrating the tricks of trade. They are probably as well known to dealers in Ontario as in Massachusetts, but the innocent victim may never dream of them.

The adulteration of milk is an old story. In one instance an inspector found a suspiciously marked can on a milk waggon, which contained what proved to be a mixture of water, salt and caramel. Its purpose was to doctor the milk at the time of delivery by watering and colouring it in the small cans given out from house to house. The milk taken from the waggon was found to be of good quality. The use of preservatives is another trick, one of which has only been introduced within the last three years. It has been discovered that the addition of one part of formaldehyde to 5,000 parts of new milk will keep the sample sweet for eight days, where an untreated sample of the same milk will curdle on the second day. Boracic acid and carbonate of soda are also used as preservatives of milk, greatly to the advantage of the milkman.

In some parts of New England and in Pennsylvania a new industry is growing up, known as the renovated butter process. Old or rancid butter is bought up at a very low price in the stores, and is put through a treatment of melting, aerating, mixing with skimmed milk while still hot, and then spraying into ice water to give it a granular consistency. What is known as the filled cheese is a western product, where hog's fat is cheap; but in Massachusetts the cheesemaker cheapens the product by skimming the milk, against which, it appears, there is no law.

It is with coffee that the manipulator of adulterants gets in his fine work. A mash of ground roasted wheat or peas, moulded together with molasses and coloured with red ochre, is a common practice, but almost any material which can be roasted and ground will answer the purpose. A clever counterfeiter is the whole coffee bean, made of roasted wheat, and so neatly moulded as hardly to be distinguished from the genuine article. It is somewhat amusing, the writer of the paper in the technology journal says, to find former makers of adulterated coffees now labelling their goods as coffee substitutes, and calling attention to the evil effects of coffee itself while using 30 per cent. of it to adulterate the substitutes.

Spices offer another inviting field for scientific adulteration. Sawdust of soft wood is not unlike the fibre of ground ginger root, buckwheat starch takes the place of pepper, while wheat, corn, ground cocoanut shells and ground barks of various kinds make up the constituents of cassia, cloves and allspice. Wheat and sawdust are the most common adulterants of mustard and ginger, and a little pepper, cayenne or ginger will give a spicy taste even to sawdust.

Jellies lend themselves easily to imposition. The so-called raspberry and currant jellies often contain no particle of these fruits, and the general term of fruit juice usually means a substance obtained from boiling up the cores and parings of canning factories. The sugar is commercial glucose, and the coloring material is an aniline dye. The glucose also is a chief component of honey, and the presence of a honey-comb is no guaranty of genuineness. There is among the curiosities of the Massachusetts Board of Health a sample of honey which contains not only honey-comb, but also a dead bee; yet it is only a mixture of cane sugar and commercial glucose.



Peas and beans ought to be cheap enough to be good, but the canners do not appear to think so. In the case of peas, especially, old and dried ones are soaked in water, coloured green and put up under some such name as "Choice Early June Peas." In Massachusetts, under a law of last year, this practice is made illegal, but it is not yet stamped out. Canned corn has been found to have been bleached with sulphite of soda. Salicylate acid is a favourite material as a preservative for fruits and berries, as well as for various brands of unfermented grape juice. This ingredient is provocative of the morbid disease known as salicylism.

Tonics and bitters highly recommended for temperance drinks frequently contain alcohol; in one case a purely vegetable tonic recommended for inebriates was found to be 41.6 per cent. alcohol. So also opium cures have been found to contain morphine in varying amounts. A "trifle refined" lime juice, prepared from West Indian fruit, as the label indicated, proved on examination to be a mixture of hydrochloric and salicylic acids, containing no lime juice whatever.

In the staple articles of food, such as sugar, flour and cereals in general, adulteration is rarely discovered, and this fact explains the relatively low percentage of the adulterated foods. But in every household and upon every table articles are used which readily lend themselves to adulteration. In some cases they are harmless and in some they are injurious, but always they are a cheat.

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#### Continental Food Frauds.

JAMES T. DU BOIS, American Consul General in St. Gall, Switzerland, in a report to the State Department, says that "If all of the substances that pass through a continental coffee grinding machine during the year should be written in alphabetical order, A would begin the list with acorns and W would end it with wormwood, sprouts of which are sometimes used to give the debased coffee a slight aromatic bitter taste. Unroasted coffee berries are often made from oat and rye flour and cornmeal. The natural aroma of these grains is destroyed by some process, and after the proper amount of coffee aroma is added the berries are formed and caused to maintain their shape by some adhesive substance."

Cheese which in some parts of Europe is considered good enough for eating is made from potatoes that are worthless for marketing purposes, milk of all qualities and stages, and blood from slaughter-houses. Tea is made from the leaves of the strawberry, linden and sage; and,

Mr. Du Bots observes: "Should it be found that all of the leaves belong to the tea plant that will be no proof that adulteration has not taken place, for the clever Chinese have a trick of using the old leaves of brewed tea for the export trade, and some of the tea dealers of Europe have discovered the deception and are utilizing the trick by preparing these leaves themselves."

In many localities beer is found to contain these charming ingredients:—Chicory, pine sprouts, camomile, henbane, wild cherries, poppy heads, guinea grains, boxwood, potash, vitrol of iron, alum, licorice, solution of tartar and linseed. Some of these substances help to make the beer heavier and more stimulating, and from the large quantity consumed it would seem that this is what the people demand.

The weight of bread is increased by soaking the dough heavily in water and by baking quickly. Potato meal mixed with the flour does not necessarily make an unwholesome bread, although it lessens its nourishing power. Alum and blue vitrol are used to improve the appearance of bread.

Americans are somewhat used to the knowledge that a supply of water is a convenient adjunct to a milkman's plant, but in Europe they put soap in the milk to restore the colour after it has been washed out by the water. Golden butter is made by adding the juice of carrots, and the weight of the butter is increased by leaving a certain quantity of water in the stuff.

Some of the wine that is consumed in Europe never has contained a drop of grape juice, and many of the liquors contain hardly a drop of the genuine article. Much of the wine on the market is from pressings several removes from the first, and is amplified by the sap of plums, cherries, apples, berries of various kinds and water. Potato syrup dissolved in rain water and mixed with the refuse of the wine and cider press makes a salable beverage, and some persons are satisfied with the aroma and stimulating qualities of this artificial wine. The desired colour and bouquet are obtained by mixing wine acids with cream of tartar.

Not a third of the honey eaten in Europe is made by bees, nor can it be with the present stock of bees. So "dishonoring of honey," as it is called, is a growing art, and the people seem to like the product. Syrups, malt extracts of the lowest grades, meal of various kinds and cornstarch, when added to a pound of honey, will make five to ten pounds of "dishonest honey."

Chocolate and cacao are adulterated with mutton tallow, lowest grade sugar, shells of the cacao bean, saw dust, potato meal and ochres containing the proper colours

## Official Reports and Notes.

### The Wolverhampton Skim-Milk Cheese Case.

AFTER the decision of the Stipendiary in this case, in which, it will be remembered, a Wolverhampton grocer was summoned by Mr. Allwood, inspector under the Food and Drugs Act, the question of appeal was carefully considered. It may now be stated that no appeal will be instituted, but it has been decided to submit the case to the Board of Agriculture, and ask that authority to determine and define the standard in cheese. The matter is of great interest and importance to the grocery trade, and as there are several other prosecutions pending in different parts of the country, it is believed they are bound to be influenced by the Wolverhampton Stipendiary's ruling. Under Section 4 of the Sale of Food and Drugs Act, 1899, the Board of Agriculture may, after such inquiry as they deem necessary, make regulations for determining what deficiency

in any of the normal constituents of genuine milk, cream, butter, or cheese in any sample of these commodities shall, for the purposes of the Sale of Food and Drugs Act, raise the presumption, until the contrary is proved, that the milk, &c., is not genuine.

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### Appointment of Public Analyst.

DR. MACADAM, Edinburgh, has been appointed Public Analyst, under the Foods and Drugs Act, for the burgh of Dingwall.

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### Corporation Scandal.

THE Corporation Health Committee of Nottingham are accused of having been "squared" in connection with several prosecutions under the Food and Drugs Act.



### Worcestershire and Food and Drug Adulteration.

THE Chairman drew attention to the inadequacy of the fines inflicted in many cases on food adulteration, and urged that the Justices should so administer the Acts as to prevent those who systematically practised adulteration making any profit on it.

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### Hove Weights and Measures.

THE Watch Committee presented a report on the execution of the Weights and Measures Act within the Borough under the powers delegated to the Hove Council by the East Sussex County Council for the financial year ending 31st March, 1900, which showed that the expenditure amounted to £114 2s. 5d. and the receipts to £21 12s. 7d., leaving a balance of £92 9s. 10d. The amount refunded for the year ending 31st March, 1900, received from the East Sussex County Council under the arrangement with them with respect to carrying out the provisions of the Weights and Measures Acts, was £339 9s. 6d. The report of the Inspector, which was also submitted, showed that he had visited 700 places of business where scales, etc., are being used for trade purposes, and had inspected 1,226 weighing instruments,

7,305 weights, 4,810 measures. Sixty-two weighing instruments were condemned for repair, and one seized as being unfit for use; no unstamped scales were found; 520 weights were found requiring adjusting, two unstamped, and 13 seized as being unfit for use, 45 measures were found requiring adjusting, 4 unstamped, and one seized as being unfit for use. Legal proceedings were taken against twelve persons for offences against the Weights and Measures Act, the Bread Act, and the Bye-Laws relating to the sale of coal. Convictions ensued in each instance, the fines and costs amounting to £10 13s. 6d. During the year 255 sacks of coal in course of delivery or for sale were re-weighed, and in two instances short weight was discovered and proceedings instituted. A coal dealer was also summoned for hawking coal in quantities not exceeding 2 cwt. in unlabelled sacks. Thirty visits had been made in connection with the Petroleum Acts, 1871 to 1881. During the year 28 samples of paraffin oil were purchased, and on testing the same by the petroleum tester he found them to be safe oils within the meaning of the Petroleum Acts, i.e., oils which did not give off an inflammable vapour at a temperature of less than 73 deg. F. Samples purchased from every oil dealer in the Borough had been tested, and in no case had an unsafe oil been found, the flashing points ranging from 76 deg. to 104 deg. F.

## Weights and Measures Notes.

### Lewes Weights, Scales and Measures.

AT Lewes Petty Sessions, William Pannett, coal merchant, Lewes, was summoned at the instance of William Fletcher, an Inspector under the Weights and Measures Act, for using an unjust weight at Southover, Lewes, on May 18th. The prosecutor proved the case, and Mr. Mathias, who appeared for the defendant, pleaded guilty and asked for the return of the scales so that they could be made satisfactory to the Inspector. Defendant was fined 20s., and the Magistrates made an order for the scales to be returned.—G. Newington and Company, coal merchants, Lewes, were summoned for having an unjust instrument in use to weigh coal. The Inspector said the scale was 2lbs. out of the balance. Mr. Mathias appeared for the defendants and pleaded guilty. A fine of 20s. was imposed.—Robert Mason, milk dealer, West Street, Lewes, was summoned for not having his name and address on a milk can at Lewes, on the 18th of May. Defendant pleaded guilty and on the evidence of the Inspector he was fined 10s. Mason was further accused of selling skimmed milk from a can without a label on saying the milk was of that description. Defendant again admitted the offence and was fined a further 10s.—Herbert Wheeler, employed by Mr. Holford, coal merchant, Lewes, was summoned for not carrying a correct weighing instrument at Lewes on the

11th of May. Defendant did not deny the offence, but said he did not know he had to carry scales on a handcart. Fined £1.—William Brooker, carman, Lewes, was summoned for delivering coal without a ticket on the 16th May at All Saints, Lewes. The Inspector stated the case, and Mr. H. J. Hillman, who represented the defendant, pleaded guilty, saying the offence was only a slight one. A fine of 5s. was imposed.—George Dunford, milk dealer, Lewes, was summoned for using unstamped measures at St. John's, Lewes, on the 22nd of May. The defendant's wife appeared and pleaded not guilty. The Inspector said he found two measures—a pint and a quart—in the defendant's possession, neither of which was stamped. The measures were produced, and the defendant was fined 10s.—G. T. Breach and Sons, woolstaplers, Lewes, were summoned for using an unjust instrument at All Saints, Lewes, on the 28th of May. The Inspector said the scales in question were 1lb. and a quarter out of balance. Mr. H. Prince, of Brighton, who appeared for the defendants, said the scales were not used for trade purposes. The defendants were fined 50s. including costs.—James Diplock, carman, in the employ of Mr. Urry, coal merchants, Lewes, was summoned for not carrying scales at Lewes on the 2nd of June. Defendant admitted the offence and was fined 20s. including costs.

### A New Typewriter.

THE want of a cheap yet efficient machine which will perform the services of a more costly typewriter is said to have been supplied at last by the Practical Typewriter Syndicate for Europe, Ltd., having their Showrooms at 20, Regent Street, London, S.W., who are showing a very simple and ingenious apparatus which answers all the purposes required at the cost of 25s. 6d.

The great features of the Practical Typewriter are its simplicity of action (no teaching being required), its portability, and its cheapness. Two hours practice will

enable a novice to write a letter at a reasonable speed.

An inspection of the machine shows that the Practical Typewriter possesses the essentials of every writing machine:—a key for each letter, sight writing, self-spacing, and roller feed without the intricacies of the usual mechanism. No accessories are necessary, and as there is practically nothing which can get out of order, the initial expenditure of 25s. 6d. covers everything, while the lightness (only 5 lbs.) makes it an ideal instrument for the traveller.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—George Norris, farmer, Little Lever, was charged with selling milk not of the nature demanded on the 8th of May. Mr. Wilson, of Preston, prosecuted on behalf of the Lancashire Council. Defendant pleaded guilty. Mr. Wilson stated that Sergeant Rutter purchased a sample of milk from the defendant, who was in the street, and on analysis the milk showed that three parts of water had been added to every 100 parts of the poorest milk. A further sample was purchased at the shippon, and this on analysis was found to be genuine milk of very good quality, this showing that defendant could sell good milk. The analyst stated that it would require 12 parts of water to make it the same condition as the other sample. Mr. Wilson stated that two samples of milk taken some time ago showed that it had been slightly watered, and he thought that the defendant more or less was an expert in knowing how much water he could add. It was a very bad case. Defendant said he had four farms, and could not look after them. A fine of £5 and costs was imposed.

At the Salford Police-court, before the Stipendiary, on June 13th, John Hough, Oak Farm, Ollerton, Knutsford, was summoned for selling milk not of the quality demanded. Mr. Greenhalgh prosecuted, and Inspector Crossley proved on May 11th meeting a train at Old Trafford railway station, and taking a sample of the defendant's milk, which on analysis was found to have had two per cent of water added to it. The defendant said he had fed his cows on potatoes, and could not account for the milk having water in it. A fine of £4 and costs, or a month's imprisonment was imposed.—Thomas Hatton, Rock Farm, Elton, Cheshire, was summoned for a like offence, and in this case it was alleged that the milk had been tampered with. A fine of 20s. and costs was imposed. The Stipendiary said it would be better if the railway company allowed the cans to be made secure.

ROBERT MARSDEN GOAD, milk purveyor, Barnoldswick, employed by the Barnoldswick Co-operative Society, was summoned at Skipton for selling adulterated milk. Mr. A. Randerson, Inspector under the Food and Drugs Act for the West Riding County Council, prosecuted, and Mr. H. Robinson (from the office of Mr. G. M. Robinson, Skipton, Keighley, and Settle) defended.

Mr. Randerson said the defendant was in the employ of the Barnoldswick Co-operative Society as milk purveyor, and on Sunday morning, the 6th ult., he was in Manchester Road, Barnoldswick, where he saw the defendant selling milk by retail. He asked to be supplied with a pint of new milk, for which he paid a penny. He went through the formalities, and divided the samples into three parts; one he gave to the defendant, one he sent by registered post to be analysed, and the third he retained. In due course he received the analyst's certificate, which showed—milk 92½ parts, added water 7½ parts. The certificate added—"This opinion he mainly based on the fact that the sample contained 7.76 per cent. of non-fatty solids, whereas normal milk contains at least 8.50 per cent. of non-fatty solids."

Cross-examined by Mr. Robinson, witness said it would be between eight and half-past when he saw defendant. He had not seen him before that morning. The defendant told witness he had only just come from

the farm. The kit was quite full of milk. He did not know whether defendant had any cows or not.

Mr. Robinson: This occurred on Sunday?—Yes.

You think they will adulterate because you are not about?—I am sure I don't know.

There are such things as milk being weak from the cow?—It depends how the cow is fed.

Is there not a case in which a cow was milked at Somerset House, and analysed there, and water was found.—Not at Somerset House.

Mr. Robinson, for the defence, said he relied mainly upon the case he had just mentioned, where a cow was milked at Somerset House, analysed there, and over 7½ per cent. of water was found in that milk. The defendant had no cows of his own. The inspector suggested that the Co-operative Society had cows of their own, but they had not. The milk was all bought from Mr. John James Shutt, farmer, and the defendant got it from him every day at the top of Park Road, and then started on his rounds. There was no village pump nor anywhere possible to get water from on the way to the place where the inspector stopped him. If water had been added, it must have been before it came into the possession of the defendant. After the Bench had heard the evidence of his clients, he would ask them to dismiss the case.

Robert M. Goad said he was a milk dealer.

The Chairman: I understand he is a servant for the Co-operative Society.

The Inspector:—Yes, that is so.

Continuing, the defendant said the Co-operative Society had no cows of their own. They got their milk from John James Shutt. He went to meet him about seven o'clock. He had his cans in the cart empty and clean. He took them to the top of Park Road, where he met Shutt and got the milk from him. He had 29 gallons. The kit from which the sample was taken had 13 gallons. Having got the milk, he had to pass no pump or anywhere where he could get water.

Cross-examined by Mr. Randerson: Are you aware that the Co-operative Society have been warned by the Bench to obtain a warranty for all their goods?—I am not aware of that.

You are not aware that they have been convicted three times?—No.

Mr. Robinson put in a case, *Banks v. Wooler*, that had only been tried this year, where the milk had 10½ per cent. of water, and the case was dismissed on the ground that the milk was weak from the cow.

The Chairman asked if Mr. Robinson was not going to call Mr. Shutt.

Mr. Robinson said Mr. Shutt had not come, although he had promised to do so, and bring his man with him.

After a few moments' consultation, the Chairman said they considered the case proved, and the full penalty was £20. This was one of the cases that wanted stopping. There was a good deal of under-selling of milk, and the public had to suffer as the result. The defendant would be fined 40s. and costs, making £3 1s. 9d. in all.

JAMES WRIGHT, farmer, Barnoldswick, was also summoned for selling adulterated milk. Mr. H. Robinson also appeared to defend in this case.

The Inspector again gave evidence, and said he was on duty in Westgate, Barnoldswick, on Sunday, the 6th of May, where he saw the defendant with his cart selling milk retail. He obtained a pint of new milk, and divided the sample into three parts. He then asked to be served out of another kit the defendant had in his cart, and from which the defendant had not served any milk. He sent the samples to the public analyst. In due course, he received the information that the first sample contained: milk 92 parts, added water 8 parts. The second sample he



took from the unused kit the analyst returned to him as of fair quality. The first one, which was almost empty, was adulterated; the second, which had not been used, was of fair quality.

Cross-examined by Mr. Robinson: The one which you say was adulterated was close to the bottom of the can when you took the sample?—As near as I could say, half-full.

Milk is always weaker towards the bottom, of course?—I have not found it so.

Doesn't the cream always rise to the top?—Not with the continued stirring up and jolting round the streets.

Mr. Robinson, for the defence, said the case was a very similar one to the last. He could trace the milk from the cow to Mr. Randerson's hands. With regard to the water, the explanation was that as milk gets to the bottom, it is not of as pure quality as the milk got from the top. He did not wish to dispute the analyst, but he thought it quite right to go behind the analyst's certificate, and show that the water was not added.

The Chairman: You must show it.

James Wright said he was a farmer, living at Calf Hall Farm, Barnoldswick. On the date in question, he was delivering his milk, and the Inspector saw him and told him he would see him later and get some milk from him. He saw him again and asked him for a pint of milk. This he supplied him from a kit that was close on empty, only containing about a gallon.

The Chairman: How much does the kit hold when it is full?—Sixteen gallons.

Witness had been in the milk trade all his life, and the milk was always best at the top. He helped with the milk from the first, and assisted to put it into the cart. During the time the cows were being milked there was no water put into the milk. He had charge of the milk from the cow to the time it went into Mr. Randerson's hands.

Cross-examined by the Inspector: Was the milk put to the water or the water put to the milk?—Neither.

What diameter is the can. Two feet across it?—Yes, just about.

Then can you get your measure right into the milk where there is only about a gallon in?—Yes, we can.

How do you account for the water getting into the bottom of the kit then?—I cannot account for it, except that milk is always weaker at the bottom than the top.

Mr. Randerson handed in a report showing out of 11,000 samples, not one came as low as the sample which the defendant sold him.

James Wright, sen., said he was the father of the last witness and lived at Cow Pasture Farm. He helped to milk every day unless he was ill. There was another man beside himself. Witness was not quite sure whether he was there that morning or not. His son also milked. They had 31 cows. After they had finished one cow, they put the milk through the strainer into the kit. He was certain there was no water added. He had always found milk to be better at the top of a kit than at the bottom. He cleansed the kits out and he did not leave any water at the bottom. The milk was always in witness's sight until it was put into the cart.

Cross-examined by Mr. Randerson: You say you are not sure you were there on the morning in question, and yet you tell the magistrates you are sure there was no water added?—I am certain there was no water added.

Re-examined by Mr. Randerson, witness said that when the cream was taken off, it tended to make the milk weaker.

Mr. Randerson: It will not make it half water.

Thomas Wright said he was the nephew of last witness, and a farm servant on his farm. He helped to milk. He milked at Calf Pasture, and then went down to Calf Hall. He took the kit with him. It was clean and empty. There was never any water in it. When a cow was milked, the milk passed through a strainer into the kit. James Wright went down to Calf Hall for the milk, and witness helped him to put it into his cart, after which it was taken round. Replying to the Inspector whether

persons could put water into the milk without his seeing them, witness said it would take anyone four or five minutes to fetch water, and their absence would be observed. He did not think that the milk would be as good at the bottom as at the top.

The Chairman said that the case was a very similar one to the last, and the public must be protected. They would impose a fine of 40s. and costs.

**PRESERVATIVES IN MILK.**—At Liverpool, on June 13th, before Mr. W. J. Stewart, Stipendiary Magistrate, several cases under the Food and Drugs Act were heard. Louis Schumacher, of 209, Athol Street, was summoned, on two informations, for having sold milk which, on being examined, was found to be deprived of some of its cream and also to contain a small quantity of formative. Inspector Baker deposed to purchasing the milk. Professor Boyce, on being called by Mr. E. C. Sanders, prosecuting solicitor, said he considered the smallest quantity of formative was injurious to health. The defendant was fined 40s. and costs in each case.—Reginald Butler, manager of the Wilts United Dairies, Limited, was summoned for having sold to Robert Isaac, Limited, St. John's Market, cream containing 5 per cent. of borates, calculated as boracic acid. Mr. Sanders prosecuted, and Mr. F. A. Greer defended. The manager of Robert Isaac, Limited, said he purchased a bottle of cream from an agent of the Wilts United Dairies, Limited. Mr. Collingwood Williams deposed that the sample contained 5 per cent. of boracic acid. Professor Boyce said that boracic acid was injurious. For the defence Mr. Greer contended that there was no evidence as to an offence by his client. The man who sold the cream was, he continued, in no way connected with the supposed agent. The summons was dismissed.—Robert Isaac, Limited, St. John's Market, was summoned for having sold cream containing a small quantity of boracic acid. Mr. Sanders prosecuted, and Mr. Greer defended. Inspector Quinton said he called at the shop on April 24th, and purchased a bottle of cream, to which there was attached two labels, one of them reading as follows:—"This cream is free from thickening matter, but contains a small percentage of boron preservative to retard sourness, in accordance with the practice of the last ten years, and approved by the leading medical and scientific authorities." Mr. Collingwood Williams stated that the cream contained 5 per cent. of boracic acid. Professor Boyce repeated his evidence as to the injurious effect of boracic acid upon human beings. Cross-examined by Mr. Greer, he said he had formed his opinion as a result of experiments on kittens. Asked as to the symptoms, witness said there was a high mortality amongst those fed on boracised milk. He thought it would have an injurious effect on infants particularly. One dose of boracic acid would not injure a man, but repeated doses would. Mr. Greer endeavoured to show that the acid would lose most of its effect if taken in cream. Replying to a question as to how much cream the average baby took in a day. Professor Boyce said—I am not an authority on the bringing up of babies. Mr. Greer: I am in the same happy position. (Laughter.) Mr. Stewart: Then, this is a case of the blind leading the blind. (Renewed laughter.) Mr. Greer asked witness whether he would pledge his scientific reputation that the experiments made on kittens, which proved the effects of boracic acid, showed that the acid would have similar effects on human beings. Witness replied the acid had a deleterious effect on kittens, and would have an equal effect on infants. Dr. Rydeal, public analyst for the Lewisham Board of Works, said he agreed that a certain proportion of boracic acid used as a preservative was injurious, but it depended entirely upon the quantity of food it was taken in. Borax and honey were frequently recommended by monthly nurses for newly-born babies, and the majority of the milk bottles were washed with boracic acid solution. It was to be found in tomatoes, grapes, beer. (Laughter.) Mr. Greer: Beer is a beverage, not a vegetable. Witness, continuing, said the acid taken in food was beneficial. Dr. Smart also gave evidence as to its beneficial qualities. A fine of £5 and



£5 5s. costs was imposed.—Edmund A. Thomson, of Elliott Street, was summoned for having sold cream containing 4 per cent. of boracic acid. Mr. Rudd, on behalf of the defendant, pleaded guilty, and a fine of 20s. and costs was imposed.

**BUTTER AND MARGARINE PROSECUTIONS.**—Isaac Armstrong was charged with having at Burnopfield, on the 27th of April, sold half-a-pound of margarine without enclosing it in a wrapper as required by the Food and Drugs Act. Defendant said he would have to plead guilty, but he was not present at the time, as his wife would explain. Mr. J. Laidler, inspector, said this particular provision under the Act was the only protection the public had. He did not suggest that in this case that there was an intention purposely to defraud customers. John Wilson, assistant inspector, said he went into the shop and asked for half-a-pound of butter. Mrs. Armstrong asked if he would have the best, and pointing to some on a dish he said he would have half-a-pound of that. She replied that it was margarine. Witness said he would take half-a-pound of that, and she gave it to him wrapped up, but not in a properly labelled paper. There was no label on the bowl. Mrs. Armstrong explained that she had not been well for a few days, and one of her daughters had removed the labelled papers. She produced a copy of a label marked "margarine" and also a receipt for a supply they had just received. Mr. Wilson asked for margarine, and thinking he was a working man and might be in a hurry she wrapped it up in an ordinary piece of paper. The Bench thought there was no intention to defraud, and only impose a fine of 2s. 6d. and costs.

At West Ham, on June 13th, Charles Dennis, a provision dealer, of 41, Victoria Dock Road, was summoned for exposing margarine for sale without a label on it, for selling some not properly labelled, and for selling as butter a mixture containing 90 per cent. of margarine. Mr. F. Stern appeared for the defendant, and admitted the offences alleged. He pleaded that Mr. Dennis had been "sampled" several hundred times, and until now there had been no complaint. On this occasion the assistant who was serving was very busy, and omitted to label the mixture. The summons for selling adulterated butter was withdrawn. For exposing margarine for sale unlabelled a fine of £3 and 23s. 6d. costs was imposed, and in the other case there was a fine of 10s. and 7s. costs.—Charles Brandon, of 283, Victoria Dock Road, was fined £3 and 18s. 6d. costs for selling margarine as butter.—Charles Mason, of 29, Hallsville Road, Canning Town, for exposing for sale margarine without a label was fined £2 and £1 10s. costs.

**MILK OF SULPHUR PROSECUTION.**—At Chesterfield, on June 16th, the Langwith Co-operative Society, Ltd., were summoned for, by the hands of their agent, Thomas Ecclesall, selling at Langwith, on May 11th, milk of sulphur not of the nature demanded, which consisted of 50 parts of sulphur and 50 parts of sulphate of lime. Mr. J. Middleton, Chesterfield, defended. Mr. W. H. S. Crabtree, County Council Inspector of Weights and Measures, stated that he visited the Co-operative Stores at Langwith and asked for milk of sulphur. The assistant, Ecclesall, weighed him two ounces, which was all they had in stock, for which witness paid 1d. Witness explained to the manager the purpose for which the sample had been obtained and he produced the analyst's certificate, which stated the sample contained equal quantities of milk of sulphur and sulphate of lime. Mr. John White, the County Analyst, said the sulphate of lime was a foreign ingredient. Mr. Middleton: This preparation was bought in 1897. Would it be alright to sell it then? Witness: Yes, but in 1898 a new Pharmacopœia came into force which for the first time gave the formula, and it was then wrong to sell any article under an official name which did not come up to the requirements in the book. For the defence, Mr. Middleton, said that it was very important that the Society should maintain its good name for selling genuine articles, for if it became known that was not so, a good deal of

custom would be lost. A conviction might prove disastrous to the Society. Where was the wrong doing? The article was quite saleable in 1897, but in 1898 it was wrong to sell it because the Pharmacopœia had been revised. The instruction of the committee was that every article should be genuine, and on the same day the Inspector purchased a sample of butter, but nothing had been heard about that because it was perfectly pure. His statement could be borne out by five witnesses, and he was willing to pay all costs if the case was withdrawn. The Chairman said the Bench did not consider there was any need to call the witnesses. They were of the opinion that the Society had erred through ignorance, and taking that into account they dismissed the case on payment of costs and the analyst's fee.

**GOLDEN SYRUP. ACTION AGAINST WHOLESALE DEALERS.**—On June 15th, before Mr. Justice Ridley and a Common Jury, The plaintiff, William Allard Stevens, a wholesale and retail grocer, of St. Mary Street, Bedford, sued Curtees, Whitworth, and Co., wholesale grocers, of Eastcheap, to recover damages for breach of an implied condition of sale that certain molasses were of merchantable quality. It appeared that on July 18th the plaintiff ordered verbally from defendants' traveller a cask of syrup, and his case was that it was understood that the article supplied should be cane-sugar syrup. The order having been executed, plaintiff, according to his case, supplied some of the contents of the cask to several small village shopkeepers as golden syrup, as he believed it to be. It turned out that the syrup contained a considerable amount of glucose, an article used by brewers as a substitute for sugar, the samples showing from 50 to 95 per cent. of that substance. The plaintiff's customers were proceeded against under the Sale of Food and Drugs Act, and fined £5. One of them thereupon sued the plaintiff in the County Court and recovered £6. Mr. Stevens, in view of that decision, repaid the other customers their fines. He now sought to recover these fines and other sums from the defendants. The defendants denied that they had ever given any warranty, and said they had given all their travellers directions to be particular with regard to warranting syrups to be cane syrups, because they said that of recent years, since the importation of glucose from America, the word "syrup" had come to mean in the trade any kind of syrup, while "golden syrup" meant an article made from pure cane sugar. Mr. Bonsey appeared for the plaintiff, and Mr. Spokes for the defendant. The jury returned a verdict for the plaintiff for the full amount claimed—£34 odd—and added a rider to the effect that they thought the article vended should be fully described. Judgment accordingly, with costs on the High Court scale. A stay of execution was granted with a view to an appeal.

**CAMPHORATED OIL PROSECUTION.**—At Blackwood Police Court, on June 15th, John V. Lewis, grocer, Blackwood, was summoned for selling adulterated camphorated oil, and Eli Marshall, wholesale dealer, London, was summoned under the Merchandise Marks Act charged with intent to defraud. Mr. H. S. Gustard prosecuted for the Monmouthshire County Council, and Mr. L. Mooie, Newport, appeared for Mr. Marshall. Lewis bought a quantity of the oil at the Agricultural Hall, London, in 1897. Each phial was stamped as "prepared in strict accordance with the British Pharmacopœia," but analysis by Mr. Thompson, county analyst for Monmouthshire, showed "that this is not camphorated oil, as it contains no olive oil, and instead of containing 21 per cent. of camphor was deficient 74.6 per cent. in camphor," really a mineral oil of the petroleum class. Mr. Marshall, now a managing director of the Company, said that about the time this oil was bought certain things came to the notice of the Company, and the managers of the concern was dismissed. Since then he had lost over £3,000 at least. No conviction was recorded against either of the defendants, but Lewis was ordered to pay three guineas costs and the Court fees. This was paid by Mr. Marshall, who had also to pay five guineas costs and court fees, no conviction being recorded in his case.



**BRANDY ADULTERATION PROSECUTION.**—At Norwich on June 16th, before Messrs. A. R. Chamberlin (chairman) and W. H. Dakin. John Cook, licensed victualler, of the White Swan public-house, 154, Magdalen Street, was summoned at the instance of Joseph Brooks, inspector under the Sale of Food and Drugs Acts, for selling adulterated brandy at Norwich, on May 11th. The Town Clerk appeared in support of the information, and Mr. Reeve defended. A plea of not guilty was made. The Town Clerk said the prosecution was under the Food and Drugs Act, and under that Act 25 per cent. of water was allowed to be added to the brandy, but in this case, according to the analyst's certificate, there was 30½ per cent. added water. When the public-house was visited no notice was observed hanging in the bar. John Pileh, assistant to Mr. Brooks, said on the afternoon in question he went to the public-house and asked for half a pint of brandy, for which he paid the defendant's wife 2s. He looked for a notice saying that the spirits were adulterated, but could not see one. By Mr. Reeve: He could not say from what vessel Mrs. Cook took the brandy. Mr. Joseph Brooks, who also visited the house, informed Mrs. Cook that he had purchased the brandy for the purpose of having it analysed. There was no notice visible in the bar. Mr. Reeve said the sole point was whether this brandy was sold to the prejudice of the purchaser. It was true 25 per cent. added water could be made, and other additions could be made if the purchaser were acquainted with the fact. Notice was given to the purchaser because a notice was placed on the very cask from which the brandy was taken. He would call independent witnesses who would state that a notice was in a conspicuous spot in this bar. Mr. Brooks and his assistant did not look round or scrutinise sufficiently in this case, or else they must have seen the notice. Mr. Cook had kept the house for twenty-eight years, and there was not a stain on his character. The defendant was sworn, and said the notice was about 12 ft. from the furthest point in the counter. Nothing was over the notice; it was plainly visible. Mr. Brooks was standing about 12 ft. from the notice. The notice stood on the top of the cask, and was supported by the wall. The notice had been in that particular spot for the last two years. The defendant's wife corroborated. Henry Yaxley and his wife were called, and they both stated the card was plainly visible from the bar. Dennis Johnson, a lodger, at the Swan, said no one could fail to see the notice. He saw it twice that day. After consultation, the Chairman said that under the circumstances they did not think the sale was to the prejudice of the purchasers as the notice with reference to dilution was in the bar, and therefore they dismissed the case.

**COCOA PROSECUTION.**—**ACTION OF A NOTTINGHAM COMMITTEE CONDEMNED.**—At the Summons Court, Nottingham, before Mr. J. B. Walker and Mr. F. Acton, two summonses against local grocers for selling cocoa alleged to be under the standard provided by the Food and Drugs Act, were called under adjournment. Mr. J. A. H. Green and Mr. H. B. Clayton appeared for the defendants. Mr. Tinsley Lindley, the barrister retained by the Health Committee, stated that these summonses had previously been before the Bench, when application was made for their withdrawal. Mr. Acton said it was not so; there was simply an intimation from the Town Clerk's office, suggesting that the Health Committee had decided to let the cases drop. No application was made to the Bench on the matter. Mr. Lindley said if that was the case he would make application to withdraw both summonses now. The facts shortly were these. In both cases, a small quantity of cocoa was bought, and upon being analysed, was found to be deficient in cocoa as measured from a standard of pure cocoa. After the summonses were issued both the persons in default requested to be heard by the Health Committee, and they appeared before the Committee and gave a satisfactory explanation. In the first instance, there had not been attached to the cocoa sold a wrapper indicating that it was the "commercial" cocoa, and in the second, these wrappers had not been sent as usual by the manufacturers to the

retailer. The explanation offered by both persons were deemed to be entirely satisfactory by the Committee. There was no evident intention to defraud the public, and the offences were purely technical; the Committee thought they were cases which might be overlooked, and the Town Clerk adopted his accustomed course, and advised the Committee to withdraw the summonses. Mr. Acton: What did the Committee do then? Mr. Lindley: They came to the conclusion that there had been a technical offence, and the person paid 10s. to the poor box, which was a fund, he believed, under the control of the Bench. Mr. Acton: Then the Health Committee constituted themselves this Court for the purpose of punishing an alleged offence, and fined the parties. Mr. Lindley said it was not a fine, it was a payment made. Mr. Acton: It was an infliction. After the explanation that had been given, the Magistrates might have considered it a case where they would not convict at all. Why should the Health Committee take such action after issuing process? The Chairman said Mr. Lindley had not stated why the Committee did not accept explanations before issuing summonses. Mr. Acton asked why there should be a distinction between the Health Committee and private individuals. Hundreds of summonses were issued in that Court in the course of a year, where people would like to escape the law, if they had friends on the Committee who would save them. On the other hand, the Bench were always willing to listen to any application which might be made by the prosecution in mitigation of punishment, or even to secure the discharge of a defendant. Mr. Lindley said the Committee had no idea who the persons were, the summonses were simply issued on the certificate of analysis. Mr. Acton said he was sure Mr. Lindley would be the last to contend that a committee should have culprits before them, and fine them instead of coming to the Court in the usual way. He would go further and say no case should be dealt with in this manner by any prosecutor, it was highly improper. A case having once been brought into Court should only be withdrawn when the facts were plainly and honestly placed before the Bench. They would be glad to have an assurance that the Health Committee would see to this in the future. After further arguing, the Chairman said they would not grant permission for the summonses to be withdrawn; the prosecution could refuse to offer evidence if they liked. No reply was forthcoming from Mr. Lindley, and after a few seconds' deadlock, Mr. Green asked what had become of the summonses now. Mr. Acton said he had better ask the Health Committee—(laughter) it appeared as though no evidence was to be offered. The Bench acknowledged the courtesy and propriety which the defendants had shown, and he was very sorry for them. The incident then closed.

**BAD MEAT PROSECUTION AT BURSLEM.**—Before the Potteries Stipendiary (Mr. Harold Wright), at Burslem, John Clarkson, butcher, South Low, Wetley Rocks, was summoned for having exposed for sale in the Burslem Market meat which was diseased and unfit for human food. Mr. A. Ellis (Town Clerk) prosecuted on behalf of the Corporation, and Mr. Paine appeared for the defence. It was stated that on the 26th ult. Mr. W. Martin (sanitary inspector) saw on the defendant's stall in the butchers' market portions of the carcase of a cow upon which there were a number of tuberculous growths, rendering the meat totally unfit for consumption as human food. The meat was not only diseased, but was poor in quality. The meat was seized, condemned, and subsequently destroyed. For the defence it was urged that the meat was offered for sale by Clarkson in complete ignorance of its unsound condition. The Stipendiary said it was horrible to think what disease might be spread amongst the poorer people when they had sold to them meat in this condition. The animal had simply been covered with tubercles, and the whole body was diseased. By inflicting a fine in such a case he would not be doing his duty to the public, whom he must protect from such dealers. He committed the defendant to prison for two months.



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# Food and Sanitation.

SATURDAY, JULY 7, 1900.

## Dietetic and Hygienic Notes.

### The Battle of the "Preservatives."

THE question as to whether it is justifiable to add preservative agents to food stuffs has been often agitated, and it has been discussed pretty frequently of late in the law courts, more especially with reference to the use of boric acid. Its use in milk has perhaps been most frequently under discussion but it is used to "keep" other articles of diet, and applied to them with a lavish hand.

Milk is generally free from the bacteria which produces sourness when it is still in the milk ducts of the cow's udder, but it is contaminated by contact with the outer surface of the teats and the hands of the milker. The more thoroughly the teats are cleaned previous to milk, and the more scrupulous the milker is to clean his hands, the less will be the contamination of the milk from these sources and the less rapidly will it become sour. We do not suggest that milkers are not in the habit of either

washing the cow's teats or their own hands previous to commencing to milk a cow; but if it was a common practice there would be much less sourness and rapid putrefaction of the product which it is their object to supply to the public, and which we have a right to presume they expect to be for the public good. Now, the introduction of boric acid into milk which has passed through the dirty hands of a milker tends to prevent rapid souring, and the careless milker or his master are indemnified from the penalties which in the course of nature they would suffer. The milk remains "sweet," and they go on in their filthy ways, whereas if all their milk soured rapidly in the warm weather they would be forced to look into the cause and devise the most obvious and desirable remedy in the free use of soap and water. If in their knowledge of antiseptics they saw fit to try to render their milker's hands and their cow's teats bacteria-free they should have a reward if not too abundant.

There are still other sources of contamination while in the cowkeeper's hands. His pails may not be properly sterilized by washing freely with *boiling* water; but this is such a well-known source of risk that is not so likely to be neglected.

Then we have the milkseller. Are his churns clean, and does he take care to put the lid down in a clean place, and prevent his measure touching the side of his cart? We fear he does not always succeed in taking these precautions. We often wonder if he knows that each time he soils his measures and dips it into the main supply he is adding to the rapidity of souring process. Here, again, the presence of boric acid will prevent him from learning from nature of his carelessness.

We have not discussed whether it is legally right to add "preservative," nor even whether the added material is injurious. These things require to be discussed in the law courts; but we have tried to show that to allow any "preservative" to be added to milk is putting a premium on uncleanness, or, rather, taking off the discount which nature imposes on uncleanly habits, when she is allowed her own sweet way.

If a milkseller cannot deliver his milk to his customers before it has begun to "turn" sour, the milk is useless. Now the housewife has a method at her disposal which is more efficient than boric acid. If she *boils* the milk immediately on receiving it into her house she will destroy all the full-grown bacteria, which produce the souring of milk, and it will remain sweet for sufficient time even in warm weather, when bacteria grow most rapidly. Milk boiled in the morning will keep till evening, and the evening's milk will keep till morning if left in a cool place. Boiling does no harm to nutritive quality or digestibility of the milk. It alters its flavour slightly, but the taste can readily be acquired, and then raw milk is not desired; it may be even objected to. The acquirement of this taste should be encouraged, for there are other hidden dangers in drinking unboiled milk.

What about "sterilised" milk? We do not favour milk "sterilised" by the dairyman, for we think his product should be "clean" enough to be delivered as it comes from the cow, but we do think householders should "sterilize" milk themselves. Boiling is the simplest method of effecting this, and it is just as effective as the majority of "sterilisers." None of them destroy all the bacterial life in the milk—that is, none of those ordinarily sold to the public.—*Birmingham Weekly Post*.



PURE, WHOLESOME, DELICIOUS.

# BIRD'S CUSTARD POWDER

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and successful Housekeeper.

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## The Modification of Cow's Milk for Infants.

MANY methods have been suggested for the preparation of milk for bottle-fed infants based upon the comparative chemistry of mother's milk and cow's milk. Some of these methods have proven particularly valuable, but Dr E. H. Bartley in the May number of the *Brooklyn Medical Journal* finds that they generally present decided difficulties and disadvantages which he believes are obviated by a method which he has devised and which is suited to home use.

"The aim of the process is to prepare a food from cow's milk of good quality, which shall be as nearly like human milk as possible. To do this it is necessary to preserve the natural milk emulsion, retaining all the fat, or about 3 to 3.5 per cent. of it, reduce the caseinogen to about 1 per cent., or a little less for very young infants, increase the soluble albumin and globulin from 0.5 per cent. to about 1.25 per cent.; increase the milk sugar from 4.5 per cent. to 6 per cent., render slightly alkaline at the time of feeding, and present the food to the infant as nearly sterile as possible.

"Bottled milk of good quality, bottled in the country, is well creamed when it reaches the consumer, and contains about 4 per cent. of fat and about 3 per cent. of caseinogen.

"Van Slyke says that the casein in cow's milk bears almost a constant ratio to the fat of two-thirds to one. This would make the casein (precipitated) 2.67 per cent. when the fat is 4 per cent. This precipitated casein is only a part of the caseinogen as it exists in the solution, which would make the contents of caseinogen very nearly 3 per cent., when the fat is 4 per cent. The albumin and globulin together are present to the extent of about 0.5 to 0.7 per cent., the sugar about 4.5 per cent., and the salts 0.68.

"The skim milk, or the bottom milk, contains a little less than 1 per cent. of fat in the ordinary market milk. Chapin has recently stated that but one-tenth of the total fat remains in the bottom milk, a smaller quantity than I have usually found.

"If, from a quart bottle of such milk, we syphon off from the bottom the two-thirds of the contents of the bottle, remove the caseinogen from this with rennet, and return the whey to the bottle and make up to the original volume with water, we reduce the caseinogen to 1 per cent., while we do not disturb the other constituents. We do, however, slightly increase the soluble proteids by a cleavage of the caseinogen during the coagulation by rennet.

"We may now add 1.5 per cent. of milk sugar, or approximately a heaping tablespoon to the quart of food, and about 0.5 per cent. of soluble albumin. The albumin may be added in the form of egg-white. This contains on the average 12 per cent. of proteids, consisting of albumin with a small amount of globulin.

"The white of a medium-sized egg weighs about twenty-five grams, and contains therefore about three

grams of albumin. When added to the bottle of milk, or thirty ounces, this will add approximately 0.4 per cent. of soluble proteid. This will bring this constituent up to about 1 to 1.2 per cent., or nearly that of human milk. It only remains to pasteurize the mixture, and add a little lime water at the time of feeding, to make the caseinogen more soluble, and to insure a slightly alkaline reaction.

"The following printed directions are handed to the mother at the beginning of her experience in preparing the food:—

DIRECTIONS FOR PREPARING INFANT FOOD FROM COW'S MILK.

"Syphon off from the bottom of a bottle of fresh milk of good quality three-fourths of its contents, leaving the cream and upper part of the milk undisturbed in the bottle. This may be easily done with a small glass syphon or rubber tubing, previously filled with water, to start the syphonage. Pinch one end of the rubber tube and hold it firmly, while the other is thrust through the cream and to the bottom of the bottle. Lower the outer end into the inner vessel of an ordinary double boiler, and release it, when the skim milk will run out, provided the latter vessel is kept lower than the milk in the bottle. To the milk thus drawn off add a teaspoon and a half of a good Essence of Pepsin, and warm slowly in the double boiler to blood heat, and keep at that temperature until thoroughly curdled. Now heat, with a constant stirring, until a thermometer dipped into the milk shows a temperature of 155 degrees F., and remove from the fire. Strain, while hot, through clean wire strainer and dissolve in the whey a heaping tablespoon of sugar of milk and the white of one egg. When cold, pour the sweetened whey back into the milk bottle and mix thoroughly with the cream and top milk. Pasteurize the mixture in a Freeman's pasteurizer.

"NOTE.—Should this food prove too laxative, reduce the quantity of milk sugar. It is well to add, at the time of feeding, from one to two teaspoonfuls of lime water to each meal. As the child increases in age and strength the amount of bottom milk syphoned off may be diminished."

Dr. Bartley adds that the clinical results have been most satisfactory in nearly every case, the growth of the child rivaling that produced under breast feeding.

\* \* \* \*

## Beware of Normandy and Brittany Butter.

CONSUMERS of butter will be interested in a decision just given by the Criminal Court of Appeal. A Normandy butter merchant who was in the habit of adding a small quantity of boric acid to his butter in order to keep it fresh during transit, was prosecuted by the authorities on the score that his butter was not exclusively composed of milk or cream, as required by the law of 1897. The Caen tribunal, before which the case came in the first instance, held that the law had been broken, and imposed a fine. This decision has now been reversed by the Court of Appeal. The wholesale producers and dealers are sure to turn this decision to extensive account, and for the future the Normandy and Brittany butters are tolerably certain to owe something of their freshness to boric acid.

\* \* \* \*

## Celery as a Carrier of Infection.

THE *Maryland Medical Journal* points out in a recent issue the danger of contracting typhoid fever from truck gardens, with their free use of fertilizers from all sources. An epidemic of typhoid fever occurring in a State institution was apparently traced to the use of celery grown on some sewage-fertilized grounds, the practice of banking up the stalks making these plants especially adapted to receiving and holding the germs. As soon as the use of the plant was stopped the epidemic diminished, and finally ceased altogether. The facts indicate the need of caution in using this popular vegetable, which, with its corrugated stems, etiolated by banking up with earth often saturated with fertilizers of one kind or another, and generally eaten raw, might very possibly carry disease germs.



## The Law Relating to the Adulteration of Food.

READ AT THE GROCERS' CONFERENCE, PARIS. BY W. K. MARK,

ACCORDING to the fifth article in the list of questions submitted for examination to the Congress we are to-day to make a comparative study of the laws relating to adulteration of foods in different countries. This study is to comprise the possibility of facilitating international commerce by seeking to establish harmony as regards purity between the laws which govern the exchange of food products. It is only among civilised nations of the first-class that we find laws on this subject. Savage races and nations in the early stages of civilisation have not as yet taken up the means of preventing adulteration. They have to suffer evils of the opposite kind, evils which proceed from the want of food and from the bad quality of the food substances with which they have been able to provide themselves. This primitive state alone permits them to support life by feeding in a more or less animal fashion. The second step brings us to the point where mankind has been able to improve its condition by forming societies, tribes, and nations. Then the division of labour comes into play, followed very soon by the trade of the grocer. In the third degree of advancement to which we have now attained we have at one and the same time abundance, excellence, and variety in the products which support human life. As the result of long experience, of organised labour, of the researches of philosophers, and of modern means of transport, we have at the end of the nineteenth century neither to fear famine nor even high prices. Unfortunately there is still a danger which threatens us, and which deserves the special attentions of grocers' associations in every country—the danger presented by the adulteration of foods. May it please this honourable assemblage gathered for the first time in an International Grocery Congress to take up this subject.

We have seen that it is only in advanced States of civilisation that the adulteration of food becomes intentional, and demands laws for its suppression.

In this respect let us give the foremost position to France, the hospitable country where we are to-day enjoying so friendly a welcome. France, which has in other ways done so much for the liberty and the well-being of the people, has very early recognised the necessity of checking the practices of dishonest manufacturers and dealers. We shall see that it is not simply from politeness that we ought to give to France the honour of being placed at the head of the list, an honour which she has thoroughly merited not only by the early date of her laws, but also by the perfection to which she has brought the operation of her analytical laboratories, machinery without which no adulteration law can be worked. The following list, drawn up after inquiries made in many directions, presents to us a general view of the more important governments which have special laws, and at the same time includes some which treat this subject of adulteration in a less decided or purely tentative fashion:—

FRANCE.—Law of August 16th to 24th, 1790, and July 19th to 22nd, 1791, police regulations; March 27th, 1851, law tending to the more efficacious repression of certain frauds in the sale of merchandise.

BELGIUM.—Law of 1890, authorising the Government to regulate and supervise the trade in food products.

GERMANY.—Law of May 14th, 1879, concerning the traffic in foods, preserves, etc.

GREAT BRITAIN.—Sale of Foods and Drugs Acts of 1860, 1872, 1875, 1879, 1887 (margarine), and finally 1899.

UNITED STATES.—Projected law read a second time in the Senate, January 15th, 1900, and referred to committee. Similar to English law.

HOLLAND.—Penal Code Articles 329, 330, proposed law relating to dairy produce, 1900.

SWITZERLAND.—No federal law, but the civil code and the police magistrates. The legislative council is considering the subject at the present time.

ITALY.—No law, but a number of analytical laboratories; for instance, Turin, Rome, Milan.

RUSSIA.—No law, but police regulations.

There are besides twenty-three nations which have lent their names to an international commission on legislation which it is sought (in some quarters) to establish. It has been impossible to ascertain the laws and regulations in force in all these countries. Doubtless there are among them several which merit honourable mention but our present purpose not being to compile new orders of merit, but rather to weigh and discuss regulations with which we are for the most part familiar, we therefore beg the nations not quoted by name to accept the assurance that the omission is due to want of time rather than to any ill-will in regard to them.

Now, it is not enough to have laws which admit of prosecuting public poisoners, cheats, and adulterators. It is necessary also to possess means which permit business men to discover and prevent fraud and falsification. According to Mr. Henry Huet Desauvay, barrister, of the Court of Appeal at Paris, author of the pamphlet entitled, "The Municipal Laboratory, 1890: "Adulteration is the disease most affecting trade in our times. People think themselves obliged to build up rapid fortunes, and do not fear to have recourse to fraud and to destroy the public health." Let us hope that this reproach may be too severe. At any rate, the French law has dealt with this matter of adulteration, and has assumed the duty of insuring purity and wholesomeness in foods for more than 100 years past. It was in 1790 that the municipal bodies of France were first endowed with the authority to inspect the goods exposed for sale publicly, but although the law was strict enough the inspection was wanting in thoroughness until the law of 1851, which directs "the more effectual repression of fraud." By the provisions of this law the punishment of fine or imprisonment is decreed against—

Those who adulterate foods.

Those who sell or offer for sale foods adulterated or corrupt.

Those who deceive or attempt to deceive the buyer as to weight or measure, etc.

Those who sell goods containing admixtures dangerous to health, even in cases where the adulteration and the danger may be made known to the buyer.

Those who without reasonable excuse have in their shops or stores food substances which they know to be adulterated or unwholesome. If the adulterated substance is hurtful to health, additional penalties.

Those convicted of similar breaches of the law in the previous five years, additional penalties.

The goods forming the subject of conviction, if they are fit for use as food, are placed by the court at the disposition of charitable institutions. In the contrary case, they are destroyed, and the destruction may be ordered to take place in front of the premises of the convicted party.

The conviction shall be placarded in the neighbourhood and announced in the newspapers at the expense of the convicted party.



Such is the law of 1851, which, followed by other decrees of the same tenor, brought about in 1878 the formation of municipal laboratories. In 1880, after important consultations in the town councils, the laboratories were definitely opened to the public for the analysing of all kinds of products.

Qualitative analysis is done free of charge. The staff of the laboratory comprises indoor and outdoor officers. The indoor staff consists of expert chemists and tasters. Samples are submitted to these officers bearing simply a label numbered and marked with the name of the goods only. The names and addresses of the applicants are always concealed from the analysts.

The outdoor service is in the hands also of expert chemists, who visit the stores of merchants and, where necessary, take samples of suspected goods. The samples are divided into two parts, sealed with the official seal. One only of these samples is analysed, the other is carefully kept in case of dispute. The merchant has the right to require the inspectors to give him also samples taken at the same time and sealed with the official seal. What is wanting here is the right to insist also on a certificate when the samples taken are found free from defect. The analyst ought then to be obliged to certify that they have found the goods pure and sound.

The artificial colouring of wine is forbidden, even by the help of innocent colouring matters. It is not right to give poor qualities of wine the same good appearance which belongs to good wine. It is forbidden to sell as wine any drink made from dried fruits, even if it contains an addition of pure wine or alcohol.

It is forbidden to use poisonous substances in colouring bon-bons, sugar plums, lozenges, and liqueurs; and to prepare or keep them in vessels of such a nature as to be injurious to health. It is forbidden to wrap sweetmeats or foods in papers coloured with poisonous substances. Special regulations govern the sale of beer, of margarine, and also of poisons.

Thus the French law is sufficiently clear and definite. It includes nearly all the provisions which experience has been able to suggest. We shall see more of these provisions after we have given some consideration to the measures in force elsewhere.

It was in 1888, on the occasion of the Great International Exhibition that the Belgian Government first manifested the intention to intervene for the inspection of manufacture and trade in food products, as inspection until then exercised only, and then not sufficiently, by the courts of law and police. In 1890 the law was discussed and adopted, and the duty of inspection regularly begun at the end of 1891. A distinction is made between three classes of foods.

1. Pure foods.
2. Foods which have suffered only harmless sophistication.
3. Foods which have undergone changes that render them hurtful or dangerous to the public health.

The foods considered pure are those which have been suitably prepared and have not undergone the addition of foreign matters nor the removal of any of their chief constituents; these present normal composition and character.

But two circumstances come in to complicate this definition, and also to complicate the task of analysis. They are the variability in composition and character to which all foods are subject, and the necessity to allow some latitude as to the presence of impurities. The proportions and characters of the principal component parts even of natural foods are not fixed, and may vary within wide limits. This has suggested to unprincipled dealers the idea of extracting a part of the more valuable properties when present in large proportions, and to make up the deficiency by adding to the less costly elements when present in rather small proportions. The dishonest

manipulator can reduce or add to these proportions without too much fear of overstepping the minimum or maximum limits usually laid down.

There is, however, a means of obviating the difficulty which here presents itself; it is to carry on simultaneously the analysis of samples officially procured in the same place of origin as the suspected sample and under the same conditions. Goods may contain a small proportion of natural impurities, or impurities taking their rise during the manufacture, and due to the apparatus employed. The Belgian law lays down the limits of toleration, and also permits in certain cases the addition of a small proportion of foreign matter with the object of improving the appearance or insuring the preservation of the goods. Sometimes it also authorises the abstraction of a part of the constituents of a food, but the title "pure" is reserved for those products that have not availed themselves of this toleration.

The general principal which directs the control of the trade in mixed goods of an innocent kind is that the label must clearly indicate the changes made and the difference between the natural and the modified product. The trade in hurtful products is also well regulated, and the laws prohibit in a most formal manner the employment of preservatives. Thus the Belgian law of 1890 follows the French law of 1851 (with which it has much in common), its distinguishing feature being the clearness with which it sets forth the results of scientific inquiry, of the gradual advancement of which we have not yet seen the end.

Germany, by a decree of May 14th, 1879, gives to the police the right of entry into stores, etc., the taking of samples and prosecution of law-breakers who may have been guilty of deceit, substitution, or adulteration. The German law is specially severe in regard to those who may have damaged the public health by dishonest practices.

In Great Britain, down to 1860, everybody was at liberty to adulterate as much as he liked, as there was no law on the subject and no public authority for the purpose of inspection.

In 1855, Mr. Scholefield, member for Birmingham, moved for the appointment of a select committee, and his labours resulted in the Act of 1860. This Act, however, was only of a permissive character, and little was done under it. It was followed by the Act of 1872, which made the appointment of analysts compulsory. Consolidated in 1875, amended in 1879, and again in 1899, the English law has so well succeeded in checking adulteration, that whereas in 1872 out of each 100 samples taken 65 per cent. were adulterated, in 1875 the figure had fallen to 26 per cent., and in 1878 did not exceed 16 per cent.

Nevertheless, the English law leaves a great amount of liberty to the trade. What it needs, and what it is now engaged in considering, is some definite rule with regard to the employment of colouring matters and preservatives.

In the United States the Senate, on January 15th, 1900, discussed and read a Bill, of which the principal sections are similar to the European laws which we have been considering. Besides, out of fifty States and territories of which the Republic is composed there are only four which have not adopted State laws without waiting for federal action for the whole country. The State of Indiana possesses an entire code on this subject, and the State of Massachusetts has so long ago as 1784 forbidden the sale of corrupt or bad foods without the knowledge of the buyer.

To-day we do not permit the buyer to profit by such offers, even after he has been warned. The State of New York has also made an error in ordaining that margarine must be coloured green, a colour that can only be produced by the help of arsenic. The wisdom of the American Congress will no doubt provide the United States with a federal law which will avoid similar slips.

In Holland, the penal code by its Articles 329 and 330, protects the consumer against deceit and against



adulteration or alteration without proper declaration. The town of Utrecht on April 15th, 1900, considered the report of a commission for the formation of a municipal laboratory.

Switzerland is turning attention to the subject at this time also, the legislative council being engaged on it.

Italy has laboratories, the report of which show an active and careful scientific inquiry.

Now to return for a moment to the French law. It must be remarked that it originally forbade the use of chemicals for preserving as well as of minerals for colouring. But at a later date, as the result of scientific inquiry, the French law was altered, and now permits both one and the other in small proportions. The Belgian law equally allows the use of them within reasonable limits. Some members of the Royal Academy of Belgium declared in 1885 that the use of copper in food, in the proportions in which it was to be found, is not dangerous.

However, that is not strictly the grocer's business, it is the analysts and the manufacturers who should fight it out between them. The grocer is only the distributor, and acts in the public service, so he should not be subjected to vexatious prosecutions. The task of making the laws of

different countries harmonious awaits some definite pronouncement from scientific authorities as to what is and what is not harmful. There are among analysts some who would not hesitate to say that ordinary salt (chlorate of sodium) is injurious to health, since those who live entirely on salt meat suffer from scurvy. Borax (which is a bi-borate of soda) cannot be much worse.

Thus in all countries, by a common impulse, there is a progression towards the highest ideal which mankind can seek, the ideal of the free exchange of all our products, it being understood that these products must first be rendered free from all foreign intermixture, fraud, and sophistication. The governments of the whole world recognise in principle, though they differ in method, that they have a duty to fulfil towards the people, of which the effect, however, cannot be kept within mere territorial limits, the duty to inspect the means of existence, and to make sure that the energy, the skill, and the science which help the manufacture of foods shall not be prostituted before the desire to get rich rapidly, nor on the other hand bound down by the tyranny of analysts, the fetters of a police more zealous than well-informed. Let this Congress declare that the grocers here assembled range themselves on the side of a commerce at once free, well-regulated, honest, intelligent wholesome, and pure.

## Weights and Measures Notes.

### Selling Bread Otherwise than by Weight.

CHARLES METCALF, grocer, Burslem, was charged with selling bread otherwise than by weight. Mr. Knight prosecuted and Mr. Abberley defended. An assistant inspector of weights and measures bought bread from the defendant, who was delivering it with a cart. The bread was not weighed when sold, and five 4-lb. loaves were found to be  $9\frac{3}{4}$  oz. short. Two other loaves were found to be  $5\frac{3}{4}$  oz. short. Mr. Abberley pleaded guilty and explained that it was an accident. Fined 20s. and costs.

\* \* \* \*

At Nottingham, on June 23rd, Charles Trueblood, a greengrocer, carrying on business at Carlton, was summoned for having in his possession for use for trade certain weights which were incorrect. Colonel Storey, inspector of weights and measures, stated that a 4-lb. weight was  $9\frac{1}{2}$  drachms light, and a 2-lb. weight 2 drachms light. There were a lot of other weights about, which were all right, and the weights about which the complaint was made were

on the counter by the scales. The defendant pleaded that the weights were not used in his trade, but for propping doors open and such like purposes. The magistrates accepted his explanation, and did not convict, but ordered the defendant to pay 10s. costs. He was, however, warned that he had no right to have any weights in his shop which were not correct.—James Swift, a grocer, of Carlton, was summoned for an offence under the Food and Drugs Act on June 18th. Colonel Storey stated that at four o'clock in the afternoon he went to the defendant's house, and told him who he was, and that he had come to test his scales. Swift immediately went up to the scales (produced) and put his hand under the dish and took something from it. Witness went round the back of the counter, and leaned over, and saw him take a piece of bacon away. Witness took hold of it, and tested the scales with it on, and found that it made the scales  $5\frac{1}{2}$  drachms against the purchaser. He made some statement about it, and said that he had forgotten it was there. The defendant called a boy to explain the reason of the presence of the bacon. The Bench imposed a fine of £2.

## Official Reports and Notes.

### Dr. Alfred Hill on Demerara Sugar and Adulteration in Birmingham.

In his quarterly report the Birmingham analyst (Dr. Alfred Hill) has a reference to the proceedings recently instituted by the Health Committee of the Corporation against grocers for selling as Demerara sugar what was dyed crystal. He states that in all he received thirteen samples, and found one dyed with a coal tar colour. Another sample was found to be dyed. He certified in each case that the sample was composed of 100 per cent. of dyed sugar crystals. Dr. Hill describes what took place before the magistrates, and says he gave evidence that in his opinion the sample was composed of cane sugar dyed with an aniline dye, and that he considered Demerara sugar should be free from foreign dye. The defence admitted that the sample was dyed, and did not dispute that in the wholesale trade Demerara sugar meant sugar from

Demerara, but maintained that any raw West Indian cane sugar, dyed or undyed, was, by the custom of the retail trade entitled to be sold as Demerara. The magistrates concurred with this view and dismissed the case, finding that the sample was dyed, but was of the nature, substance, and quality of Demerara sugar, and that the dye was not injurious to health. The amount of ash found in the other sample was the same as that found in the white crystallised sugars, and indicated that it was not a raw but a refined sugar. As refined beet sugar is cheaper than refined cane sugar, in all probability this sample was a sample of white beet sugar dyed yellow to imitate Demerara, or was what is known as "yellow crystals." While, therefore, the sample was probably obtained from beetroot, in the present state of analytical knowledge it is impossible, Dr. Hill says, to prove that such was the case, as chemically pure sugar prepared from the sugar cane is analytically identical



with chemically pure sugar prepared from beetroot, though commercially their value is very different, and it was considered advisable to withdraw the prosecution in this case. The practical effect of the magistrates' decision is, therefore, that so far as Birmingham is concerned, any yellow sugar, either cane or beet, dyed or undyed, dear or cheap, can be sold as Demerara sugar. Dr. Hill adds that only three of the 119 samples previously bought in Birmingham under the Acts were dyed like these two samples. Dr. Hill appends a copy of the memorandum issued by the West India Committee. He points out that the Committee defined Demerara sugar as "sugar made in Demerara, Trinidad, or any other British West Indian colony by the usual well-known Demerara process. They consider that sugar dyed with aniline dye, no matter where they come from, are not of the nature, substance, and quality of what is known as Demerara sugar. As regards other goods, Dr. Hill states that 29 of 71 samples

of butter, or 41 per cent., were adulterated with foreign fat. Twenty-three of 27 samples of coffee were quite free from chicory, one sample contained a trace, and three were largely adulterated with it. A single sample of baking powder analysed was found to be free from alum. In 1894, Dr. Hill points out, the Queen's Bench decided that baking powder was not a food according to the definition given in the Act of 1875. The Sale of Food and Drugs Act of last year in section 26 states that the expression "food" shall include "any article which ordinarily enters into or is used in the composition or preparation of human food." This amplification of the definition enables samples of baking powder to be purchased for analysis under the Acts. One of three samples of golden syrup was adulterated with 30 per cent. of glucose syrup; the other two contained only the products of the sugar cane and water. Fourteen samples of white pepper and two of cheese were found to be genuine.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Old Hill Police Court on June 13th, William Darby, grocer and provision dealer, Grainger's Lane, Cradley Heath, was summoned under the Food and Drugs Act for selling butter not of the nature demanded on the 23rd of April last. Mr. R. A. Willcock, of Wolverhampton, prosecuted on behalf of the county authorities, and Mr. W. Waldron defended. Mr. A. Smith appeared on behalf of Mr. E. J. Burnett, provision merchant, of Wellington Road, Dudley, from whom it was alleged the butter had been bought. Mr. Willcock said the offence was alleged to have been committed on April 23rd, and after the summons had been served Mr. Van Tromp received a notice from Mr. Waldron stating that his client possessed a warranty received from the wholesale dealer that the article sold was butter. If that could be proved there would be an end of the prosecution so far as Darby was concerned, but he was informed that Mr. Burnett denied having sold the article, which upon being analysed was found to contain only 3 per cent. of real butter fat. William Grassam, assistant inspector under the Act, stated that on the 23rd of April he visited the shop of defendant and purchased half-a-pound of butter. Defendant's wife served witness with the butter from off an orange box, and said that it was 1s. 1d. per pound. Witness paid for the butter, and told Mrs. Darby that it would be analysed by the public analyst. Witness then cut the butter into three parts, made a parcel of each, and labelled them 32 C.O.T. One parcel he left with defendant's wife, and the others he delivered to Mr. Van Tromp. Defendant told witness that she had had the butter from Dudley. On the 19th of May witness again visited the shop and was shown an invoice dated February 29th, which showed that she had been dealing in butter with Mr. Burnett, of Dudley. Cross-examined: Defendant showed him the invoice as soon as he had the butter as evidence where she had had it from. Mr. Van Tromp, inspector under the Food and Drugs Act, deposed to receiving the two parcels from the last witness. On the 24th of April witness delivered the packages to Mr. Jones, the public analyst, and on the 10th of May he received the certificate produced from him, which stated that the butter contained only 3 per cent.

of pure butter. Witness called on defendant on the 17th of May, when an invoice was shown to him by Mrs. Darby dated the 17th of April. She said that the invoice referred to the butter she had sold to Grassam. Cross-examined: The invoice defendant produced was a proof that she had purchased butter from Messrs. Burnett and Co., Dudley. Mr. Waldron said that defendant had sold the butter in exactly the same condition as she had purchased it from Mr. E. J. Burnett, wholesale grocer, Dudley. In addition to the guarantee the box produced, which was the one that contained the butter, was labelled "Guaranteed pure butter," and also "Belfast to Dudley," "Belfast to Cradley." Mr. Smith said that he wished to publicly controvert and deny the allegation that his client (Mr. Burnett) was guilty of fraud. Mr. Bassano said that they were not dealing with a case against Mr. Burnett, but against Mr. Darby. Mrs. Emma Darby was called, and stated that on the 19th of February, Mr. Burnett's son called upon her for an order. She paid him an account, and gave him an order for some butter. She received the butter in the box produced. Witness turned the butter out on a board, and part of the butter was sold to the witness Grassam on the 23rd of April. The article witness sold she believed to be butter, in fact she had never bought any margarine in her life. When the inspector told witness where he was going to send it to she told him from whom she had purchased it. Cross-examined: She had also purchased butter from Mr. Charles Green, of Cradley Heath. On the 17th of May witness had stated to Mr. Van Tromp that she was not sure whether she had had the butter from a box supplied by Mr. Green or one supplied by Mr. Burnett. She had not sold the whole of the February butter in April. The case was at this point adjourned for a short time for the invoices from Mr. Green to be produced in Court. These invoices when produced showed that defendant had purchased a considerable quantity of butter from Mr. Green since Christmas. Mrs. Darby again stated that she had never bought any margarine in her life. Mr. Waldron, in his defence, contended that defendant had two people with whom she dealt in butter, and there was no reason why she should say she had the butter from Mr. Green if she had had it from Mr. Burnett. She had never purchased margarine in her life. He had to submit that the case was not made out. The very words on the box, "Guaranteed pure butter," were sufficient evidence to denote that there was a guarantee. Mr. Willcock said there was no warranty within the meaning of the Act. The Bench said they considered that there was no warranty within the meaning of the Act, and defendant would be fined £2 and costs, £1 3s. 6d. The



solicitor's fee was not allowed, the Bench saying that the County could well afford to pay it. Mr. Smith: I wish to say, on behalf of Messrs. Burnett and Co., that we absolutely deny having supplied the stuff to Darby. Mr. Bassano: You like to say that, of course.

**MARGARINE CHEESE PROSECUTION.**—At Tamworth, on June 20th, Messrs. Pearks, Gunston, and Tee (Limited), of London, trading in George Street, Tamworth, as "Pearks's Stores," were charged by Mr. Harold Van Tromp, inspector under the Food and Drugs Act, with selling cheese to the prejudice of the purchaser on April 24th. Robert Hardy, manager of the shop, was also charged with selling cheese not of the nature and substance demanded by the purchaser, and, further, with exposing for sale by retail margarine cheese to which a conspicuous label was not attached; and Edward John Daniels, shop assistant, was charged with selling margarine cheese without placing it in a wrapper bearing the word "margarine" legibly printed thereon. Mr. Van Tromp, in opening the case, stated with regard to the three summonses against the firm that he came to the conclusion, from facts since brought to his knowledge, that although they might be technically liable they had given their assistants instructions not to infringe the Act. He would therefore proceed with the charges against the manager and the assistant, and if the Bench convicted he would ask permission to withdraw the other charges upon payment of the costs. The proceedings had been taken under Section 5 of the Sale of Food and Drugs Act, 1899, and Section 6 of the Margarine Act, 1887, and Acts amending the same. Mr. Lambert (London) defended. Arthur Toy, junior assistant to the inspector, deposed that he went to the shop and purchased some coffee and bacon. He then asked for "a pound of sixpenny cheese," and when Daniels was about to cut it he said he would have 2lb., and paid 1s. It was cut from a cheese labelled "fat and mild." The cheese was not placed in a margarine wrapper nor was the piece on the counter labelled. Samuel Toy gave corroborative testimony. Mr. Van Tromp produced the certificate of Mr. W. T. Jones, the County Analyst, which showed that the cheese contained 90 per cent. of fat foreign to milk. Mr. Lambert then called the defendants, who stated that the label had been inadvertently removed and that the purchaser was verbally informed that it was margarine cheese. The Bench fined Hardy £2 and costs in each case, and Daniels £2 and costs. Mr. Lambert gave notice of appeal against the fine imposed upon Hardy in the first charge on the ground that he was not responsible for the actual sale. Daniels had been convicted of that offence and Hardy could not be convicted also. The Mayor observed that a small fine had been inflicted on each because there were two separate charges. He did not think the three charges against the Company ought to have been withdrawn. After further consideration, the Bench imposed a fine of £2 and costs upon Hardy in the second case only. The other charges were not proceeded with.

**PROSECUTIONS FOR REFUSING TO SELL MILK FOR ANALYSIS.**—In the Southern Police Court, Dublin, on June 23rd, Kate McConn, 6, Bow Bridge, was fined £3 for refusing to sell a sample of new milk for the purpose of analysis. —Peter Kavanagh, 19, East James's Street, was fined £3 for a similar offence. —Maria Condon, 24, Lower Exchange Street, was fined £5 for a similar offence. —Thomas Lestrangle, 1, St. Nicholas Place, was fined £1 for a similar offence. Inspectors Cloney and Keogh proved the cases. Mr. I. J. Rice prosecuted on behalf of the Corporation.

**BAKING POWDER PROSECUTIONS.**—At Salisbury County Petty Sessions, Mary Ann Whapshare, baker and grocer, of East Harnham, was charged with selling baking powder adulterated with alum. Mr. W. J. Trethowan appeared for defendant, who pleaded not guilty. Arthur Latty, assistant to the Inspector of Weights and Measures, deposed to buying three packets of baking powder from defendant on the day in question, which he handed to Inspector Beardsley. Inspector Beardsley said he received the baking powder from the last witness, and going inside

the shop he told defendant that he wanted it for the purposes of analysis. He then divided the packets into three parts, as required by the Act, and handed one to the defendant. One of them he forwarded to the Public Analyst, and afterwards received a certificate saying that the baking powder was adulterated with 28 per cent. of alum. Cross-examined by Mr. Trethowan: He divided each packet into three parts and placed one part of each packet into each of three envelopes, which he sealed. He did not place the whole of one packet in each of the envelopes. Mr. Trethowan said the case he should put before the Bench was that under Section 14 of the Act each packet purchased must be divided into three parts, and one sent to the analyst, one given to the vendor, and one retained by the officer. In this particular case three packets were purchased by Mr. Beardsley. He then opened one packet, poured it into an envelope and sealed it, and the same with the other two packets. This had been his practice at Trowbridge in another case which happened about the same time, but which was dismissed on that account. The witness he would bring would swear that the contents of each packet was put entire into an envelope and sealed at the time, and it was for them to decide whether Mrs. Whapshare or Mr. Beardsley was speaking the truth in the matter. The defendant then went into the witness-box, and in reply to questions put by Mr. Trethowan, stated that Mr. Beardsley took the three packets, and opening them one at a time poured the contents of each into three separate envelopes. In each envelope there was the whole of one packet. The Bench, after some consideration, decided to convict, and fined defendant 10s. and 9s. costs. Mr. Trethowan said that defendant would appeal against the decision.—Henry Witt, of Broadchalke, was summoned for a similar offence on the 11th of May. Defendant pleaded guilty. Inspector Beardsley stated that the baking powder was bought on the 11th of May by his assistant. He divided it in the usual manner, and received a certificate from the public analyst saying that it contained 22 per cent. of alum. Defendant was fined 10s. and 7s. costs.—William Penny, of Bowerchalke, was also summoned for a similar offence on the 11th of May. He pleaded guilty. Inspector Beardsley gave evidence with regard to the purchase of the baking powder, which, in this case, was adulterated to the extent of 30 per cent. Defendant was fined 10s. and 7s. costs.

At Hanley, on June 20th, Robert Wallace, grocer, Piper's Row; Amins Webley, grocer, Stafford Street; and Harriett Edwards, Faulkland Street, were all summoned for selling egg powder adulterated with alum. In the case of Mrs. Webley the sample of egg powder was found to contain 24 per cent. of alum, that of Wallace contained 14 per cent., and that of Mrs. Edwards 15 per cent. of alum. Mrs. Webley was fined 40s. and costs and the others 20s. and costs each.

At the Town Hall, Chertsey, on June 13th, before Mr. J. G. Pileher and other Magistrates, Frederick Luck, a confectioner, of Weybridge, was summoned for selling to Mr. Frederic Cliffe, a county inspector under the Food and Drugs Act, a baking powder, not of the nature, substance, and quality of the article demanded, in that it contained 15 per cent. of alum among its component parts. Mr. Cliffe produced a certificate from the public analyst, showing that the alum was contained in the powder; but this was denied by the manufacturers, a representative of whom also handed in certificates testifying to its purity. Lord Thring (a magistrate) inquired why the manufacturers did not give a written warranty with the powder, and received a reply that the firm (Messrs. Hayward Bros., of London) was not asked for it. Lord Thring asked whether it was to be understood that when the powder was manufactured the makers did not know that the Adulteration Act required them to give a written warranty. The reply was that a warranty would willingly have been given if it had been asked for, and it was thought to be sufficient if, as was the case in the present instance, there



was a label with a guarantee of purity on the packet of powder which was sold. Mr. Cliffe said the defendant was morally not guilty of any offence, except selling the article, and suggested that if the Bench imposed a small fine the defendant would be able to summon the manufacturer. The Bench imposed a fine of 20s. and costs. Defendant asked if he could appeal, and the magistrates replied in the affirmative and advised him to consult a solicitor.

**CAMPHORATED OIL PROSECUTION.**—At Bradford West Riding Court, on June 21st, Joseph Holdroyd, of Westgate, Cleckheaton, was summoned on the charge of having sold camphorated oil deficient in camphor. Inspector Duce, who is employed by the County Council, under the Food and Drugs Act, said that on May 11th, he called at the defendant's shop in Westgate, and asked for four ounces of camphorated oil. He was supplied, and he paid sixpence for the article, being the usual price. When the purchase was completed, he explained that he required the article for the purpose of analysis. Defendant seemed surprised that the camphorated oil was to be analysed. The Chairman: He did not dispute the fact that he had sold you what you asked for? Inspector: No, sir. The analyst's certificate was to the effect that the sample contained five per cent. of camphor and 95 per cent. of olive oil, instead of 21 parts of camphor and 79 parts of olive oil, as directed by the British Pharmacopœia. The analyst added that the sample contained less than quarter the proportion of camphor present in the British Pharmacopœia's preparation, and its remedial value would be correspondingly reduced. The Chairman: What is the difference in value? Inspector Duce: Camphor is 2s. 5d. per lb., and olive oil is about 10d. or 1s. per lb. Mr. Crabtree (Messrs. Clough and Crabtree), who represented the defendant, questioned the inspector as to whether camphor was not very volatile when prepared in this way, and was likely to evaporate considerably. The witness replied that he did not think it would evaporate very much, and added that the bottle from which it was obtained was quite full. Mr. Crabtree submitted that the inspector was wrong, and that camphorated oil evaporated very much. Defendant's shop was a small one towards the outskirts of the town, and the defendant had done comparatively little business there for a long time; in fact he was thinking of declining that business and closing the shop altogether. The oil in question had been in the shop for a considerable time and had been sold in small quantities to a working class population. There had been absolutely no attempt at adulteration, and no attempt to defraud the public in any way. Several similar cases had been tried at Paisley, and in each case it was admitted that evaporation took place. In reply to the Chairman, Inspector Duce stated that he was supplied from a 2lb. bottle, which was quite full. The bottle contained an ordinary cork. Defendant was fined 10s. and costs, with the alternative of ten days' imprisonment.

**PEPPER ADULTERATION PROSECUTION.**—At the Bradford West Riding Court, on June 21st, Arthur Collinson, grocer, Cleckheaton, was charged with having sold adulterated pepper. Jeremiah Duce, an inspector under the Food and Drugs Act, said that on May 11th he called at defendant's shop in Westgate, and purchased two ounces of pepper, telling the defendants that he required it for the purpose of analysis. He divided the sample in the usual way, leaving a part with the defendant, and forwarded a part to the analyst, whose certificate was to the effect that the sample contained 95 per cent. of ground pepper and 5 per cent. of extraneous mineral matter. The mineral matter consisted essentially of magnesium silicate, apparently in the form of steatite or French chalk. This was the first time he had met with chalk as an adulterant in pepper, and in his opinion it must have been added intentionally. Mr. Smith, who defended, pleaded guilty. In extenuation he explained that the adulterant matter was only five per cent., and was more expensive than pepper itself, so there was no wonder that the analyst had not met with it in this connection

before. It was to be inferred from this the magnesium silicate must have got in by mistake. It had been held that the sale of an adulterated article was the offence, and not the act of adulteration. Therefore it was no use trying to prove that the defendant did not add the adulterant himself. He submitted, however, that in expressing the opinion that this adulterant had been added intentionally the analyst had gone outside his province. He was instructed that the people who ground the pepper were also grinders of magnesium silicate, and it might have got into the pepper that way. The Chairman: Is there any duty on pepper? Mr. Smith: I don't know; as we were pleading guilty I did not think it worth while bringing an expert. Defendant was fined 10s. and costs, with the alternative of ten days' imprisonment.

**JAM ADULTERATION.**—Messrs. Holmes and Richmond, jam manufacturers, of Darlington, were the defendants in a case before the Stanhope Petty Sessions, which had much the same features as that heard at Durham recently. The charge against the firm in question was that of putting 25 per cent. of apple pulp in a jar of jam labelled bramble jam. As is well known to housewives the acidity of brambles renders a certain proportion of apple necessary, 10 per cent. being the quantity generally used by the firm. The brambles used in the present case had come from Ireland, and had, in order to keep them intact from damage in transit, been picked before they were properly ripe, and had consequently been more acid than under ordinary circumstances. The apple was put in with no intention to defraud the public, but in order to produce a pleasant and palatable article. The Bench dismissed the case.

**ADULTERATED OATMEAL.—WARNING TO GROCERS.**—Joseph Latham, grocer, Measham, was recently prosecuted for selling oatmeal adulterated to the extent of 10 per cent. Mr. W. Simpson, of Leicester, appeared for defendant, who pleaded guilty. Superintendent Holloway, inspector under the Food and Drugs Act, proved the adulteration. Mr. Simpson, in addressing the Bench, pointed out that defendant was totally ignorant of the adulteration, and, although he had traded for nearly 40 years, he had never had a similar charge made against him. Defendant was fined 10s. 6d. and costs.

**BELLADONNA PLASTER PROSECUTION.**—William Budden and Co., trading as the City Drug Stores, London Road, Liverpool, were summoned on June 20th, before the Stipendiary Magistrate of that City under the Food and Drugs Act for selling four belladonna plasters not of the character demanded. Mr. Cripps, who prosecuted, said the Public Analyst found that the plasters contained only one-tenth of the strength prescribed for such plasters according to the *British Pharmacopœia*. If a person bought a belladonna plaster he expected to get one, and a plaster with only one-tenth part of the belladonna which was to do good was useless. They might just as well stick on a piece of brown paper and glue as one of these plasters, yet almost the same price was charged for them as for the genuine plaster. It was stated on behalf of the defendants that the public would not have the other plasters. A fine of £5 and costs was imposed.

**SPIRIT ADULTERATIONS.**—At Doncaster, on June 23rd, James Naylor, innkeeper, Askern, was summoned for selling adulterated whisky. John Henry Wilson, inspector under the Food and Drugs Act, said that he purchased half-a-pint of whisky from the defendant's premises on the 9th of May. On being analysed it was found to contain 5·3 parts of water in excess. Defendant said he was away at the time, and did not know until served with the summons that his men had mixed any. Ordered to pay the costs, the Chairman advising him to be careful in future.—Matthew Henry Middleton, of Askern, was also summoned for selling adulterated gin. The analyst's certificate showed the sample to contain 2·1 per cent. in excess of water. The landlord's son said his father was ill, and on that occasion he had mixed the spirit himself. Fined 10s. and costs.



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## Food and Sanitation.

SATURDAY, JULY 14, 1900.

### Sanitary Inspectors and their Critics.

It is a matter of great satisfaction that Mr. Anderson Graham, has been brought to court to justify his allegations against the probity of Sanitary Inspectors. As the case is sub-judice it would be improper to comment on it further than to record the facts.

On July 4th, before Alderman Sir D. Evans, at the Guildhall, Mr. Anderson Graham, of 1, Buxton Road, Chingford, was summoned, for having, on June 7th, written and published a libel concerning a body of persons, to wit, the Sanitary Inspectors of England, in a book called "The Revival of English Agriculture."

Mr. L. Thomas called attention to the paragraphs, which, he submitted, were particularly libellous in styling men as a corrupt body. On page 11 appeared the following:—

"Two things are still wrong with the trade; first, the retail dealer has a grossly unfair share of the profits; secondly, the honest man is placed at a disadvantage by the iniquitous adulteration that goes on, chiefly in London, and is connived at by the sanitary inspectors. No doubt there are honest inspectors—one in fifty, perhaps—but I have good grounds for estimating that seventy-five per cent of the milk sold in London is watered, and that black-mail is levied unblushingly and almost in the light of day by certain of the inspectors."

Mr. Matthews said such a wholesale condemnation of the inspectors called for a withdrawal with an apology, or the statements should be proved. It was no answer to say that no person in particular had been attacked, as had been decided in the Court of Appeal. The defendant was the author of the book.

Mr. W. Williams said this was not a libel at all; if it was near a libel, it was such that no jury would convict. The defendants spoke of certain persons and perhaps his language was rather strong when he expressed an opinion that about one in fifty was honest. That could hardly be construed into a libel.

Sir David committed the defendant for trial, admitting him to bail in his own recognizances of £100.

We shall look to the result of this case with much interest as it bears directly upon some remarks, anent, Medical Officers of Health, Surveyors, and Sanitary Inspectors, recently made to the writer by the manager of Jeye's Sanitary Compound Company.

#### The Preservation of Meat.

A NEW invention for the preservation of freshly killed meat without resorting to a very low temperature or subjecting the meat to any preparation has been tried at Buenos Ayres, and its success was proved on June 16th. An ox and two sheep were killed on Mafeking day and placed in a chamber, the meat being sealed by the Minister of Agriculture. The same Minister, accompanied by Major Flintoff, of the British Remount Commission, representatives of Messrs. Houlder Brothers, of London, and Messrs. Parker and Fraser, of Liverpool, and many others visited the chamber to day and found the meat perfectly fresh.

Owing to the satisfactory result of the trial a shipment of meat will be despatched early in July. If the shipment is successful, England will be supplied with fresh meat at low prices.

The inventor is a German engineer, but the patent rights have been acquired by English people.—*Times*.



## Dietetic and Hygienic Notes.

### Holidays on the Continent.

THERE are few men to whom the popularisation of Continental travel owes as much as it does to Mr. Gooday, the far-seeing manager of the Great Eastern Railway Co., and virtual creator of the Harwich route. The visitor to the Continent can step into the train at Liverpool Street, and from it to the steamer bound for Holland or Belgium. Should his destination be Antwerp or the Hook of Holland, he wakes up to find himself there. The berths on board the steamer are so good that even the most carping critic would find it hard to suggest an improvement, the cooking is excellent, and the prices charged are cheap. Personally, we prefer to see English folk spend their holidays in England, Ireland, Scotland, or Wales, but if they must go abroad then we know no route where the same attention and courtesy can be got that is offered on the Harwich route. There is an absence of the wofish expectancy for tips which, on other routes the traveller finds, can alone secure him comfort.

The Great Eastern Company have just issued a book descriptive of the routes. It is well written and full of beautiful drawings.

Passengers who wish to combine a tour on the Continent of Europe with a visit to the Paris Exhibition can do so with comfort, economy, and speed, by travelling from England by the Harwich and Hook of Holland route, or *via* Harwich and Antwerp.

Further information, Time Books (free), and Guides can be obtained on application to any of the Great Eastern Railway Company's Agents; the Booking Offices of the Principal Towns in Scotland, the North of England, and the Midland Counties; to H. J. KETCHAM, Great Eastern Railway American Representative, 362, Broadway, New York, U.S.A.; to the American Rendezvous, 2, Cockspur Street, S.W.; or to the Continental Traffic Manager, Liverpool Street Station, London, E.C.

\* \* \* \*

### Pancreatic Digestion of Casein.

At the recent meeting of the American Pediatric Society at Washington, D.C., Dr. B. K. Rachford, of Cincinnati, Ohio, read a paper detailing the experiments he had made with a view to the study of the pancreatic digestion of casein and the application of the results to the treatment of infants. He used rabbit's pancreatic juice, which was collected in a common receptacle and afterward equally divided between the digestion tubes of an experiment, so that each tube might contain an equal quantity of pancreatic juice of like digestive capacity. The bile was also obtained from the rabbit, and filtered before using. Ordinary dairy milk was employed which had been boiled and neutralized. He observed at the close of certain experiments that free fat or butter was found floating on the surface of digestive mixtures in which the milk had been subjected to the action of both bile and pancreatic juice. The physiological emulsion of fats, as it occurs in milk, was partially destroyed by the combined action of bile and pancreatic juice, but this emulsion was not destroyed by either one of these agents when acting alone. This led to the observation that possibly the emulsion of fats in milk is wholly or partially destroyed by the action of bile and pancreatic juice in the intestinal canal prior to their absorption.

There are two things to be considered in practice, namely, whether hydrochloric acid causes a larger amount of casein to be digested by the pancreatic juice, and whether in examining the stomach hydrochloric acid is found to be deficient.

### Fictitious Nutmegs.

J. VANDERPLANKIN calls attention to the presence in commerce of spurious nutmegs, composed of a compressed powder mixed with earthy matter. On cutting these nutmegs the absence of vegetable structure is observed, and by heating for three minutes in boiling water they are softened and fall to pieces on rubbing between the fingers. The ash varies from 11 to 18 per cent., while the pure nutmeg only gives 2 to 3 per cent. The adulterated samples are also, in general, heavier. F. Ranwez has analysed various samples of these spurious nutmegs; he observes that in appearance they are similar to the genuine seeds, but the odour and taste are not quite normal. The fictitious nuts, freed from adhering white powder, gave the following figures as compared with the results obtained by Koenig from genuine nutmegs:—

		False nuts.	Gen. nuts.
Moisture	...	11.09	7.38
Ash	...	11.34	2.70
Ash insoluble in HCl (SiO <sub>2</sub> )		3.90	—
Concrete nutmeg oil (ether extract)	...	15.42	34.27
Volatile oil	...	1.76	3.05
Cellulose	...	7.24	9.92

The author obtained the following results in the examination of genuine nuts:—

	Three samples whole nuts.	Two samples pure powder.
Moisture	15.53...14.54...15.47...	8.59... 9.09
Ash	1.27... 3.29... 2.73...	1.78... 4.88
Concrete oil	31.38...33.40...37.62...	39.60...32.02

--Chem. Zeit. Report, 24, 31, after Ann. Pharm.

\* \* \* \*

### Diet in Infantile Pneumonia.

In discussing the treatment of this disease Leonard (*Practical Medicine*) says that the true aim of feeding in all acute diseases of childhood should be to foster the strength and tax the digestive organs as little as possible. The stated interval between food should not ordinarily be longer than two hours. The food should, of course, be liquid, milk being the ideal liquid food for the critical stage of the disease.

This may be varied by peptonizing, by the addition of egg albumen, or carefully cooked and strained oatmeal gruel; or, if not too sweet to the taste, malted milk, which is always ready and easily prepared. Rice gruel, or plain beef or mutton broths, and ice-cream also afford variety.

It ought not to be necessary to defend home-made ice-cream as a sick food. Frequent trials of it in this and other ailments of childhood has convinced the author that it is too often forgotten, and almost never harmfully, when given in reasonable quantity. Fruit ices, as lemonade, orangeade, "raspberry shrub," frappe, and simple ices flavored with pineapple, etc., are certainly grateful in alternation with the regular food, and usually work no harm. Only occasionally are kumiss, matzoon, and like preparations needed; the author would taboo all that contain liquor in any form, except as temporary stimulants.

Some form of alcohol is thought by many physicians to be a necessity in this disease in the routine treatment, but Leonard has never seen the need of it, and concludes that its use arises from lack of confidence in remedies and in skilful nursing. As stated in the beginning, the physician should give careful directions about all these matters, but this is written to cover his omissions and to render the mother or other attendant intelligent in properly caring for the little sufferer.



## The Adulteration of Food.

### All Cheapening Mixtures are Bad—Preservative Chemicals Condemned.

ONE of the most glaring and reprehensible cases of adulteration, and one which especially calls for repressive legislation, is the addition of preservatives to canned goods, jellies and jams, cider and cheap clarets, milk, unfermented grape juice, etc. The preservatives in common use are salicylic, benzoic, and boric acids, the sulphites, the flourides, and borax. It is true that the occasional use of these substances in small quantities is not injurious to health, but their continued use in small quantities is.

Borax and boric acid in repeated doses liquify the blood and act as poisons. Benzoic acid induces gastric catarrh. Salicylic acid is an irritant poison. Plants watered with a solution of it wither. In large doses it produces vomiting, delirium, acute nephritis. It is eliminated by the kidneys, and physicians are to-day inclined to believe that the enormous consumption of this preservative with beer, cider, canned foods, etc., is to be considered in connection with the increasing prevalence of Bright's disease in the United States.

All these preservatives are hostile to the lower forms of plant life. They prevent the growth of micro-organisms, and thus interfere with decomposition in the food that contains them. In like manner they check the development of digestive ferments, and thus tend to diminish the digestibility of the food in which they occur. We may be sure that whatever destroys the protoplasm of bacteria must produce some deleterious effect on human protoplasm; and this is the reason why all these antiseptics interfere with natural digestion.

Consumers would do well to remember this physiological truism: Whatever drug, antiseptic, or disinfectant impedes fermentation also cripples digestion, which is itself in a great degree a process of fermentation. The habitual use of foods containing antiseptics will inevitably result in stomachic and intestinal derangements. We cannot with impunity continuously ingest with our food substances different from the vegetable and animal products which since the creation of human beings have constituted the nutriment of mankind.

Further, the use of these preservatives is not only an adulteration, but it covers up the results of unskilled and uncleanly manufacture and market preparation. Good milk, sweet butter, sound beer, pure wine, can be taken care of, and sold without the addition of antiseptics—have been for centuries—until (to quote Prof. Cornwall, of Princeton University) "sham science came in and taught the careless and dirty producer how to evade the natural punishment of filth and mismanagement."

#### WHAT BEER MAY CONTAIN.

It is easier to adulterate with salicylic acid than to be clean. Many brewers save the expense of washing their bottles by adding salicylic acid to the beer. Think of what you may be drinking with your beer! Think of the various poisons and unwholesome solutions that may be kept in emptied beer bottles before they are returned to the breweries! I have known bottled beer to be mixed generously with spirits of turpentine. I have seen black roaches poured from a bottle with the porter. Manufacturers who fill empty bottles without properly cleansing them are taking great risks out of harmony with a Christian regard for human life. The chances are that brewers who adulterate with salicylic acid, boric acid, or the flourides, are supplying the saloons with a drink which, if not so treated, would have become decomposed and putrid long before it was offered for sale.

#### 40,000,000 QUARTS OF WATER SOLD AS MILK.

So it is with milk. Unscrupulous milk dealers skim off a part of the cream, and the next day sell as new milk this partially skimmed milk, appropriately treated with boric acid to increase its keeping quality, and robbed of its tell-tale bluish tint by the addition of carotin and caramel. Do you want such milk for your babes—such stale milk, such masked milk? The use of boric acid, seven grains to the pint, to prevent the changes milk undergoes in hot weather, is an every-day cause of Summer diarrhoea. Antiseptics in milk arrest the souring—which is Nature's danger signal. Stop souring, and you cut away the red flag of peril, at the same time that you reduce the nutritive value of this most important food.

Of course, in case of milk, the great adulterant is water. One hundred and twenty million quarts of milk are annually brought into New York city; and these the Board of Health recently discovered to be intentionally diluted with forty million quarts of water. If the water added be impure, has received sewerage contamination, for instance pathogenic germs may find their way into the milk and give rise to epidemics of typhoid, scarlet fever, tuberculosis, etc. The numerous cases of typhoid fever at Stamford, Conn., in 1895 and 1896 were directly traced to milk supplied by a farmer who had the disease in his family, and who washed the milk pans with water from a polluted well.

The addition of water, containing, as it usually does, very large numbers of bacteria, must and does influence the keeping properties of milk. Bacteria are found to swarm in healthy milk immediately after it is drawn from the udder of the cow; and milk is considered pure when fifteen drops of it contain no more than one hundred thousand specimens of these microscopic plants. Just before souring fifteen drops of milk contain five hundred million of bacteria, representing forty or fifty different varieties. To such milk infection, cholera infantum and the Summer diarrhoea of children are believed by some authorities to be largely due; and here you have an explanation of the fact that thirty per cent. of all deaths occur during the first year of existence, and sixty per cent. of children fed on cow's milk die before their fifth year!

The presence in milk of the poisonous ptomaine known as *tyrotoxin* is mostly due to carelessness in handling and transporting, like exposure in a filthy room, or the placing of warm milk from the cow in closed cans, thus preventing the dissipation of heat, and inducing an unnatural fermentation. Most cases of acute milk poisoning, accompanied with vomiting and purging, are caused by *tyrotoxin*. The same alkaloid is responsible for the severe sickness we occasionally hear of as suddenly following indulgence in cheese or ice-cream. Ice-cream is often stiffened with gelatine; and when the gelatine used is in a state of incipient decomposition, and the ice-cream is allowed to melt, and is then refrozen on the following day, as is done in many bakeries, an opportunity is given to the bacteria to revive and multiply.

#### UNSCRUPULOUS MANUFACTURERS.

Now in regard to the dangers of canned foods, 65 per cent. of which are found to be in some way adulterated. The most important sophistication is the addition of the preservative salicylic acid, the poisonous nature of which has already been discussed. Of the effects of this drug on the human system, the canners are presumably ignorant. Its administration should always be under the control of medical men, and not left to the discretion of unscrupulous



manufacturers, who know nothing about the action of medicine, and care nothing. Fancy a doctor prescribing some article of food or drink for a convalescent with delicate digestive organs, and innocently administering with the nourishment this wholesale destroyer of digestion. Wine containing four and one-half grains of salicylic acid to the pint (it requires only ten grains to the gallon to prevent the growth of ferments) has already been condemned in New York city in five-thousand-gallon lots, and the next step about to be taken by our Health Department is an attack upon the proprietors of canned and other foods, who kill the spores contained therein by the use of this preservative, instead of by the harmless and rational process of pasteurization.

We need a law requiring that on each can of preserved food the character and amount of preservative used should be stamped. If in the face of this announcement the consumer sees fit to purchase, the responsibility rests upon him. A dealer in food has no moral right to add or subtract anything without due notice to the consumer, and he should be compelled by law to give such notice—to fly the danger signal. Articles of food, above all things, should be as represented.

Special danger is to be apprehended from the use of canned asparagus, whose acid (aspartic) corrodes and blackens the sides of the can, thus forming atin salt. A single can has been found to contain a half gramme of tin.

Traces of tin have also been detected in canned tomatoes, and the sulphuric acid which is sometimes mixed with canned corn to bleach it attacks and dissolves the tin walls of the can. When the reader is reminded that one hundred million cans of corn are put up annually in the United States, and that a large fraction of this corn is first bleached with sulphuric acid and then tanned with salicylic acid, he may perhaps form an estimate of the amount of injury done to the public by the sale of such adulterated corn as pure.

Very little sickness, however, is caused by the presence of metallic substances in canned foods, but a great deal of sickness is due to the carelessness of consumers, who, after opening a can, allow the contents to remain in the can instead of removing them to a covered glass dish. An invasion of bacteria takes place at once, as toxins are quickly developed. Again, the contents of the

can may be spoiled, an accident that may happen to the most conscientious packer.

#### AN ARTIFICIAL COFFEE BEAN.

In the limited space at his disposal, it will be possible for the writer to note the almost endless variety of food adulterations detected by reputable chemists in the past few years.

That true food, coffee, is subject to sophistications whose name is legion—chicory, caramel, and roasted grains of all kinds, dandelion, turnip seeds, peas, pea-hulls, beans, Venetian red, brick-dust, straw, sticks, clay, and bakehouse sweepings. Beware of “prepared” coffees, as they are likely to contain over 50 per cent. of rye and peas. One specimen examined by the Board of Health contained no coffee whatever! Ground coffee is naturally most exposed to falsification; and yet a coffee bean has been put upon the market composed of a wheat mash coloured with red oxide of iron.

Tea is adulterated with spent tea leaves, and with rose, willow, elm, and poplar leaves, with Prussian blue, gypsum, and sand; chocolate (or coffee-paste flavored with vanilla), with starch; and the cocoa butter with other fats which melt at a higher temperature than 33 degrees F.

Cream of tartar is adulterated with alum, sulphate of lime, and cornstarch; baking powders with alum—allspices with wheat, nut shells, corn, rice, and sawdust. Cloves have been examined that were 70 per cent. dirt and nut shells; and cayenne pepper that was 90 per cent. cocoa-nut shells and corn.

Butter is oleomargarine (not injurious to health, but simply a fraud if sold as butter). Cheese is a mass of foreign fats. Lard has become beef tallow and cottonseed oil. Glucose masquerades as honey and maple syrup. Jelly is a dubious compound of glucose, coloring stuffs and mineral acids. So-called distilled waters, which ought to be absolutely pure, are found on analysis to contain from one to one hundred and twenty parts of solid matters per hundred thousand.

JOHN D. QUACKENBOS, M.D.,

Professor at Columbia University.

*New York Evening Post.*

## Weights and Measures Notes.

### Weights and Measures Prosecutions in Newington.

THOMAS GROGAN CANNON, baker, 81, Deacon Street, Newington, was summoned for having in his possession one unjust weighing instrument. Inspector W. E. Manning said the defendant was previously convicted in May, 1898, at these Sessions, whereby he had become liable to a penalty not exceeding £20. When he visited the defendant's shop in June he examined the scales and found them 3-oz. against the purchaser, caused by a knife having been placed under the goods plate. The shop was under management, and the manager's wife admitted having put the knife there. Defendant's solicitor pleaded that his client knew nothing of this “despicable fraud,” and had immediately discharged the manager and his wife when their fraudulent conduct was brought to his notice. He submitted that the defendant could not be held responsible for the criminal acts of his servants. The Bench, after retiring to consider their decision, convicted the defendant of having an unjust weighing machine in his possession, and fined him £10. Defendant gave notice of appeal.

GEORGE SMITH, greengrocer, of 76, East Dulwich Grove, for having in his possession one unjust weighing instrument was fined £1; Alfred Davies, grocer and cheesemonger, 118, Sumner Road, Camberwell, two unjust weighing instruments, fined £3; Arthur Lanham, baker, 155, Tabard Street, Borough, one unjust weighing instrument, fined £3; Albert E. Crook, manager of the Avon Valley Dairy Company (Limited), 27A, Camberwell New Road, one unjust measure, fined 10s.; Inna Wirth, pork butcher, 82, London Road, St. George the Martyr, one unjust weighing instrument, fined £1.

THE following licensed victuallers were fined:—John Hall, the Northumberland, 88, Brandon Street, Newington, five unjust measures, fined £1 5s.; Adelaide A. G. Lamb, White Swan, Westow Hill, Norwood, four unjust measures, fined £1; Caroline Carter, Coach and Horses, 6, Pitman Street, Lambeth, three unjust measures, fined 10s.; Albert Chittick, Camden Arms, 4, Camden Street, Camberwell, five unjust measures, fined 10s.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

#### A CORRECTION.

EGG POWDER PROSECUTIONS AT HANLEY.—The cases reported on page 263 in our issue of July 7th were not prosecuted at Hanley, but at Wolverhampton by Mr. G. F. Allwood, whose admirable work in suppressing fraud is well known to our readers.

### The Duty of Sanitary Inspectors.

QUEEN'S BENCH DIVISION, June 29th. Before Mr. Justice Darling and a Common Jury.

THOMPSON V. CAMBERWELL VESTRY.

This case raised the question of the responsibility of a Vestry for the negligence of their servants in failing to discover the imperfect condition of a sewer. The plaintiff was David John Thompson, who is occupier of the Queen's Head public-house, Basing Road, Peckham, and the defendants are the sanitary authority for the district. The plaintiff's case was that when he entered into possession of the house in 1897 he found a lot of bad-smelling water in the cellar. This water was pumped out, and the landlord had the house drains overhauled, and matters were better for a while, but soon he found that foul water was percolating under the wall into the cellar. He complained to the Sanitary Inspector then in the employment of the Vestry. He came to the conclusion that it was rain-water, and advised concreting the wall. This was done, but the nuisance continued during the whole of the year 1898 and down to May of 1899. Plaintiff had complained to Mr. Farmer, the sanitary inspector, several times. On each complaint Farmer promised to come to see the premises, but always failed to do so. On the last occasion plaintiff said he told Farmer that the sewage water had recently been over his sewer tips. Farmer, upon this asked, "Is it there now?" Plaintiff replied, "No, I've had it pumped out." Upon which Farmer remarked, "Oh, then, it's no use in my going now; when you've got anything to show me, I'll come and look at it." Finally, in May, 1899, plaintiff went to the Vestry Office, and lodged a formal complaint, upon which the matter was investigated, and it was found that the basin of the road sewer, which was an old brick one, was choked up and caused the mischief. In the meantime the plaintiff said he and his wife and children had suffered from sore throat, diarrhoea, and kindred diseases, and had paid £25 in doctor's bills, besides which his business had suffered and he had to employ assistance. This, he alleged, was due to the negligence of the defendants' servants. The defendants denied negligence on their part, and said that the plaintiff had been negligent in not bringing the matter to the notice of the Vestry, and that as soon as the defect in the drain was brought to their notice it was at once remedied.

Mr. Bowen Rowlands, Q.C., and Mr. Lincoln Reed, appeared for the plaintiff; Mr. Tindal Atkinson, Q.C., and Mr. F. Low for the defendants.

In the course of the evidence which was given on both sides, Sanitary Inspector Farmer, who was examined on behalf of the defendants, admitted that plaintiff had stopped him in the street "once or twice" and complained about the state of his house, but witness was then engaged on other business, and told plaintiff that if he made a formal written complaint it would be attended to.

Mr. Justice Darling, in summing up, said the question of negligence was for the jury, but for his own part he could not understand what on earth a Sanitary Inspector

was for, if, when he obtained information that there was a serious leakage in a drain which might prove dangerous to the health not only of one family, but to that of all the people in the neighbourhood, he did not consider it his duty to go at once and investigate the matter.

The jury, after a brief consultation, awarded the plaintiff £100 damages.

Mr. Justice Darling entered judgment for plaintiff accordingly.

BUTTER AND MARGARINE PROSECUTIONS.—On June 30th, Patrick Shanley (17), grocer, of 84, Higher Bridge Street, Bolton, was charged at the Bradford City Court with selling margarine as butter. Mr. Hankinson prosecuted, and Mr. Lawrence Atkinson appeared for the prisoner. Mr. Brayshaw, inspector to the Corporation, said that he went into the shop and asked for a pound of butter off the middle lump, which was margarine. He paid a shilling for it to the assistant and a shilling for another sample. He asked where the master was, and the assistant said he was out. Mr. Brayshaw then explained his position, and the assistant said that it was not pure. The assistant, however, had left the shop and could not be found. Mr. Atkinson said that his client was very young and only just come to the shop, 19, Manchester Road. His assistant was also young, and had also come from Ireland. They were quite unaware of the restrictions that were put upon margarine when being sold as butter. To use Mr. Hankinson's words, his client was only a lad from the wilds of Connemara. He had distinctly told his servant that it was margarine, and had to be sold as such. The defendant had previously been convicted in December, 1899, on the identical charge as at present. The Stipendiary said that he had deliberately sold margarine as butter, and that was very hard against poor people, as one was sold at 6d. per pound, and the other at 1s. It was very difficult to catch such persons, but when they did examples should be made of them. He fined Shanley £15 in each case and £2 costs in the first case and 8s. in the second, with the alternative of two months' imprisonment in each case, consecutive.

At Edinburgh Sheriff Court, on June 25th, Sheriff Rutherford disposed of a number of complaints at the instance of Robert Lindsay, sanitary inspector for the County of Mid-Lothian, against persons for contraventions of the Food and Drugs Act. Richard Fairley, grocer, Pathhead Ford, was charged with having on June 17th, in his shop, exposed for sale a quantity of margarine which had not the required label attached. He pleaded guilty, and explained that the sale had been effected during his absence by his vanman. When the inspector visited his shop the label had slipped off the margarine. A fine of £2 was imposed.—William Suttie, grocer, Pathhead Ford, pleaded guilty to having sold a pound of butter, which was not of the substance and quality demanded. He explained that his shopman, in his absence, had sold the article as butter without having received any instructions to do so. He was fined £3.

William Richardson, Westferry Road, Millwall, was summoned for selling margarine in a plain wrapper, and for selling adulterated butter. Mr. C. Foad, Inspector under the Sale of Foods and Drugs Act, sent a man into defendant's shop for ½-lb. of butter. The female behind the counter inquired "What price butter?" and was told "Shilling butter." After the purchase Mr. Foad told the woman the article was for analysis, when she said "It's not sold as pure butter." It was served in a plain wrapper, and the analyst's certificate showed that the butter was adulterated with 81.6 per cent. of foreign fat. Defendant was fined £10, or one month's imprisonment.



At Huddersfield, on June 29th, Margaret Ellis, of Greenside, Dalton, Huddersfield, was summoned for having sold as butter a substance which was not of the nature and quality demanded by the purchaser, and for having sold margarine without a wrapper marked to indicate the nature of the contents. From the evidence of Dr. Annis, the medical officer of health, it appeared that the article sold as butter contained 95·8 per cent. of foreign fat and 4·2 per cent. of butter fat. For the defence it was stated that the article was sold in the same condition in which it was received from a Leeds firm. It was purchased at 11d. per lb. and sold at 1s. 1d., unfortunately without guarantee. The Bench, admitting that it was a hard case for the defendant, fined her 10s. and the costs. The second charge was withdrawn.

**COUNTY COURT ACTION.—GENUINE BUTTER V. MARGARINE.**—At Pontefract County Court on June 21st, Messrs. Peacock Brothers, Wakefield, brought an action against Mrs. Goodair, of Ferrybridge, to recover £10 16s. 2d., value of butter sold. Mr. Lowden was for the plaintiff and Mr. Kemp defended. The amount was admitted, but a counter-claim was put in for £20 19s. 10d., consisting of £1 7s. fine and costs imposed by the magistrates for having sold margarine without a proper wrapper, £1 9s. 10d. for having sold adulterated butter, £3 3s. solicitor's fee, and £15 general damages. The evidence for the counter-claim was called, and Mrs. Goodair stated most positively that the butter in respect of which she was convicted was obtained from Messrs. Peacock. On the other hand, Mr. Benjamin Peacock said that he had not bought, sold, or kept margarine on his premises at all during the past ten years. When he first heard from Mr. Kemp that Mrs. Goodair was to be summoned, he went to Ferrybridge and disputed that the butter was his. He promised to stand by her in the prosecution if she could satisfy him that the article had been supplied by him. He asked to be shown the cask or to be allowed to take the sample left by the inspector, but Mrs. Goodair refused. Mrs. Goodair, in her evidence, stated that previous to the prosecution at Pontefract she was selling 50-lb. per fortnight, but after the sale dropped considerably; but Mr. Peacock now said he only supplied her with a half-cask of about 60-lb. per month, so that she must have purchased some from some one else. His Honour Judge Raikes gave a verdict for the plaintiff on both the claim and counter-claim.

**MARGARINE CHEESE PROSECUTION.**—On June 28th, Arthur Thomas Simons, Bedford, was summoned under the Food and Drugs Acts on a charge of selling margarine cheese, contrary to the said Acts, at Marston Moretaine on April 30th. There was a similar summons with respect to an alleged offence on May 24th, and of selling cheese at Marston, which contained 25 per cent. of fat other than butter fat, on May 24th. Mr. W. Marks prosecuted, and Mr. W. G. C. Mitchell defended. Mr. Marks said that the defendant sold to a Miss Clara Brown (keeping a small provision shop at Marston) some cheese, which was sent to the analyst, and his report was that there was 75 per cent. of skim milk and 25 per cent. of fat other than butter fat, and he added that it was a sample of margarine cheese. Defendant had a perfect right to sell margarine cheese, but it might be branded as such. Margarine cheese was worth £2 10s. per cwt., and the cost of genuine cheese was £3 5s. Mr. Mitchell, for the defence, asked whether the defendant was putting an undue amount of profit into his pocket? Defendant, on oath, said that he knew there was a Margarine Act, but he had not read it. Since the summons was issued he had recalled all the cheese he had sold. He bought the cheese at 53s. per cwt., and paid carriage. He charged Miss Brown 7d. per lb. It cost him 5½d. per lb., and with his expenses he only made a trifle over ¼d. per lb. profit. Defendant was fined altogether £2 1s., with the costs £5 1s. 3d.

**MILK ADULTERATION PROSECUTIONS.**—At Hurst Green Petty Sessions, William Fowler, farmer, of Baker's Farm, Ticehurst, was summoned on two separate depositions

for selling adulterated milk. Mr. Davenport Jones prosecuted. He said the facts were peculiar. On the 5th April Mr. Lathom saw defendant in Ticehurst selling milk from a hand can and a milk cart. The inspector purchased two separate pints of milk, one from the hand can, from which defendant was serving a house, and the other from the churn in the cart. These two pints were divided in the usual way and sealed in three bottles, and a sample from each lot forwarded to the public analyst, who had sent a certificate to the effect that the sample of milk taken from the can consisted of total solids 11·10 per cent.; fat 3 and solids not fat 8·10. The sample taken from the churn showed that the solids were 11, fat 3, and solids not fat 8. The analyst further certified that in the case of one there was 4·71 per cent. of added water, and in the other 5·30 per cent. It would be noticed that these two samples varied. The defendant, it appeared, had also had his samples analysed with the following result: In the first, total solids 11·23, fat 2·70, solids not fat 8·50; and in the other solids 11·23, fat 2·70, and solids not fat 8·53. In each instance the analyst added that the samples were of poor quality, but there was no evidence of added water. It would be seen that there was a difference between the two reports. In a book published by a well-known authority it was stated that the solids ought to be 12·9 per cent., fat 4, and solids not fat 8·9. This was the average taken from the milk of 273 single cows. The only conclusion that they could come to was that the milk in question had been tampered with in some way and that either water had been added or that the cream had been taken away and skim milk had been put in its place. In other places the standard was in excess to what it was in England. Of course they might find that one cow could give poor milk, but when there was a herd of cows it was unusual that the whole of the milk should be poor. Therefore, having regard to the fact that the two analysis disagreed it would be for the magistrates to say which analyst they would agree with, and if they had any doubt they could order that the existing two samples of the milk in the inspector's possession should be sent to the Government analyst at Somerset House. People no doubt purchased the milk as new milk, and it was of the utmost importance that it should be pure in quality. Mr. Lathom, Inspector under the Foods and Drugs Act for the county, proved purchasing the milk. Defendant said that the land on the farm, Haslehurst Farm, was impoverished by successive tenants, and he had been feeding the cows on linseed cake until three weeks previous to receiving the summonses. He had continued to give them cake and also rye. He had 15 cows—shorthorns. On the afternoon in question the cows were milked, the milk was put in the churn, and he at once took it on his round. He sold it as new milk. On the receipt of the summonses he went to Somerset House and the authorities there recommended him to Mr. Bevan, the public analyst for the county of Middlesex. By Mr. Jones: He had no separator, but he made and sold butter. He sold the skimmed milk. The only reason he could give for the difference in the two samples as analysed by the public analyst of Sussex was that the milk in the churn had been standing some time and the cream had gone to the top. Mr. Jones: But the certificates show that the quantity of the cream was the same in both instances. In answer to further questions defendant said his farm was a mile from Ticehurst, and it was quite possible that in shaking up the milk the cream would rise to the top; it was so in the case of the milk in churns coming by rail. He took the farm about three months ago. James Durham, in the employ of defendant, said he milked the cows. He generally milked eight of them on Saturdays, and put the milk in the churn ready for the cart. On other days he took it in the house and put it in pans. The land was very poor and sometimes before they had the cake the first lot of milk was more like water. The Bench decided to adjourn the case till next Court, and in the meantime to send the third sample of the milk to the Government analyst.



At the Kensington Petty Sessions, the Belgravia Dairy Company, of 2, 4 and 6, Exhibition Road, S.W., answered to a summons at the instance of the Authorities for unlawfully selling a quantity of milk from which, contrary to section 9 of the Sale of Food and Drugs Act, 1875, nine per cent. of the original fat had been abstracted. Mr. Leete, clerk to the Kensington Vestry prosecuted, and Mr. Ricketts was for the defendants. In opening the case for the prosecution, Mr. Leete said he had received formal notice that the defence would be warranty. Inspector Ellenden deposed that he purchased some milk from an employee of the defendant Company, on June 14th, outside Stanhope Gardens. This milk had been analysed and the certificate was that nine per cent. of the fat had been abstracted. Mr. Leete said that but for the legal point involved, this was his case. Mr. Ricketts explained that the milk was bought from Mr. Adams, a farmer, of Faringdon, Berks, under a contract which provided *inter alia* that the milk was to be delivered with all its cream and entirely unadulterated. He contended that the contract was a warranty in law, and pointed out in further proof that one of the churns bore a printed label, which was dated by the vendor and which bore a printed statement to the effect that the milk was guaranteed pure and with all its cream. Mr. Ricketts added that the defendant Company had been supplied by Mr. Adams for some time now, and had nothing to complain of as to the quality of the milk, which they frequently had analysed. As to the analysis put in before their worships in this case he could not congratulate the analyst on his detail, as this was lacking, and it was not even stated what standard was adopted. Mr. Leete said that his point as to warranty was that for a warranty to be perfect there should have been a label on each of the five churns and not one label only for the whole consignment. Mr. Ricketts said he was prepared to prove that the milk analysed was part of the consignment. As the ticket actually mentioned five churns and the number of gallons, he ventured to say that one label for each churn was unnecessary. The Chairman (Mr. Bird) here intimated that the Bench were prepared to admit the warranty. Evidence was then called by Mr. Ricketts to prove that the milk sold to Inspector Ellenden was part of the consignment in question received from Mr. Adams, and that it was not touched in any way before being sold in Stanhope Gardens. The summons was dismissed, and Mr. Leete thereupon applied for a summons against Mr. George Adams, of Faringdon, Berks, for a false warranty in respect to the milk.

At Bristol, on June 29th, Henry Smith, shopkeeper, North Street, Ashton Gate, was summoned for selling milk which was not of the quality demanded. Mr. Wise, from the Town Clerk's Office, prosecuted, and Mr. Watson appeared for the defence. Mr. Wise said the prosecution was under the 9th Section of the Food and Drugs Act, and the defendant was charged with selling milk from which a quantity of butter-fat had been extracted, to the injury of the purchaser. There was a deficiency of 27 per cent. of butter-fat, which was a large proportion. Mr. Simpson, inspector under the Food and Drugs Act, deposed to purchasing the milk, which he had tested and found deficient to the extent of 27 per cent. Cross-examined by Mr. Watson: He believed Mrs. Smith looked after the business. He was told when he bought the milk that it was the previous day's. The 27 per cent. deficiency was on the normal proportion of 3 per cent. of butter-fat in milk. Mr. Watson, for the defence, submitted that the Act laid down no limit of butter-fat, but the local analyst had taken upon himself to say the normal standard should be 3 per cent. The quality of milk was a variable quantity, and the amount of butter-fat varied very much according to the breed of cows from which the milk was taken. The question was whether it, after standing one day, the milk was in as good condition as when it came from the dairy. He would also point out that the milk had been taken from the receptacle in which it had been kept and placed in a jug, and he would suggest that while standing for sale in an open dish a certain proportion of butter-fat had

adhered in successive rings to the sides of the vessel. The Bench said they were bound to hold that a technical offence had been committed, although perhaps not a serious one, and a fine of 20s. and costs would be inflicted.

At Lambeth, on June 29th, Edward Vears, of Walworth Road, was summoned by Inspector Selby, on behalf of the Newington Vestry, for selling milk which was found upon analysis to be deficient in fat. Mr. Ricketts, jun., who appeared for the defence, took the objection that both the summonses and the analyst's certificate were bad in form, inasmuch as they disclosed no offence under the Act. The summons alleged a deficiency of fat, but there was no section of the Act which provided any penalty for a deficiency of fat. The proceedings were taken under the 9th section of the Food and Drugs Act, 1875, which is as follows:—"No person shall, with the intent that the same may be sold in its altered state without notice, abstract from any article of food any part of it so as to affect injuriously its quality, substance, or nature, and no person shall sell any article so altered without making disclosure of the alteration." It had been held that "abstraction" meant a physical alteration. The summons did not allege an abstraction, but a deficiency, of fat. Milk might be deficient in fat without any abstraction having taken place. Mr. Francis: There is a way in which the defendant could have been attacked. Mr. Ricketts replied that he did not wish to teach the Vestry their business, but the alteration of one word in the summons was all that was necessary. Mr. Francis held the objection to be good, and dismissed the summons.

SPIRIT PROSECUTIONS.—At Bedale, on June 26th, the landlady of the Sportsman's Arms Inn, Tunstall, Margaret Horner, was summoned for selling gin which was adulterated with ten per cent. of water beyond the limit allowed by the Act. Inspector Henry Fanthorpe said that he asked for a glass of gin. He was served with it and then he asked for a pint of gin. The defendant brought him half a pint in a bottle and he then got another half pint in a second bottle and paid 2s. for the gin. He then got a clean jug and poured the pint of gin into it and then divided it into three parts. One part went to the County Analyst, who certified that it was adulterated with ten per cent. of water beyond the limit allowed by the Act. Mr. C. Horner, solicitor, appeared for the defendant and pleaded guilty. She was a widow and had been in this house for twelve years—seven as a widow—and there had never been the slightest complaint against her. She was entirely ignorant that she had committed an illegal act, as she had not a hydrometer to ascertain the strength of the gin, and she thought she was doing right when she added one third of water. The Bench imposed a fine of £1 and 8s. 6d. costs.

Richard Mills, landlord of the Bromley Arms, Abberley, was summoned for selling brandy which was not of the quality demanded. Mr. Capel Loft (Stourport) defended. P.C. Knott and Inspector Berry gave evidence as to the purchase of brandy for analysis. One sample sent the County Analyst, Mr. Duncan, had been reduced in strength to 29 degrees under proof, 25 degrees being the lowest limit allowed by law. In reply to Mr. Loft, the Inspector said the spirits at the house had been tested on several previous occasions and found correct. Mr. Loft raised a legal point, namely, that under the Act of 1899 it was absolutely necessary that public proceedings must be taken within 28 days of the date of purchase. The spirits were purchased on May 10th, and the summons was not issued till June 15th. The Clerk said the objection seemed to be a fatal one. Mr. Watson complained of the delay on the part of the County Council in supplying clerks to Magistrates with the public statutes. It was not the first time that difficulty had arisen from that cause. The Chairman said the Bench dismissed the case on the technical point which Mr. Loft had raised.

GLUCOSE IN MARMALADE.—The first cases tried in Glasgow under the new Food and Drugs Act respecting jellies and marmalade came before Sheriff Boyd at Glasgow



Sheriff Court on June 25th. John B. Douglas, grocer, 737, New City Road, was charged with selling to an inspector a 2lb. jar of marmalade which contained 30 per cent. of glucose. A plea of guilty was tendered, but it was pointed out by the agent for the accused that inside the outer cover was placed a paper stating that the marmalade contained other ingredients. In imposing a fine of £5, with £1 15s. 6d. expenses, his Lordship said it would require to be a matter of proof that glucose was an essential of the merchantable production of marmalade, also that the placing of a note where those who bought the article could not view it until they had opened the jar looked very like as if it were a subterfuge.—John M'Lean, grocer, 73a, North Street, Anderston, was charged with selling a 2lb. pot of marmalade containing 35 per cent. of glucose. He pleaded guilty. His Lordship imposed a fine of £2, with £1 15s. expenses, remarking it was in accused's favour that there was not the concealed label such as was in the previous case.

**BAD MEAT IN BIRMINGHAM.**—At the Birmingham Police Court, on June 29th, before Dr. Leech and Mr. Sambidge, Emma Priddy, a grocer, as the occupier of the premises, No. 12, Coleshill Street, was summoned for exposing for sale and depositing on the premises for the purpose of sale, a quantity of bad meat, and her husband, Joseph Priddy, who assisted in the shop, was summoned for aiding and abetting. Mr. Reay Naden (from the Town Clerk's Office) appeared to prosecute, and Mr. Clement Young was instructed to defend. Inspector Wiltshire said that he visited the premises on June 21st. In the shop window six hams and four pieces of ham were exposed. The meat was blown and soft, and the flesh white and rotten. The bad pieces were mixed with good ham and bacon. Beneath the counter he found seven pieces of bacon and two pieces of ham, which were in the same condition as those in the window. The bacon was mouldy and slimy, and smelt offensively. He asked the male defendant for an explanation, and Priddy replied that the meat was brought to his shop by a man named Campbell. The Inspector seized the meat, and it was condemned by a magistrate. Dr. Newton said the hams were in an advanced state of decomposition, and were totally unfit for human food. Mr. Young pleaded guilty, but said that the premises were about to be pulled down, and the male defendant had been busy, while the female defendant had been ill. Mr. Naden mentioned that the defendants' shop was in a poor neighbourhood, and there had been a great deal of sickness there lately. The defendants were fined £5 and costs on July 22nd, 1898, for a similar offence. The magistrates said it was a very bad case, and they fined each defendant £10 and costs in the first case, and ordered them to pay the costs in the second case.—James Florence, butcher, of 95, Great Barr Street, was summoned for exposing for sale a quantity of bad meat. Mr. Reay Naden prosecuted, and Mr. Dorsett (instructed by Mr. J. W. Clulow) defended. On June 16th, Inspector Hothersall found in the shop two legs of frozen mutton, which were decomposed, black, and offensive; a half-shoulder of frozen mutton, green and black, and offensive in odour; four pieces of English beef, mouldy, green, and offensive, and two pieces of chilled beef in a similar state. This bad meat was mixed with good meat. Dr. Newton said the whole of it was in the early stages of decomposition, and unfit for human food. In reply to Mr. Dorsett, he said it was possible that the meat was perfectly fresh two days before it was seized. The defendant gave evidence, and contended that the meat was good when seized. It was only dry on the outside he said, and was good inside. The weather was then hot and close. A fine of £5 and costs was imposed.

**GOLDEN SYRUP PROSECUTION.**—Thomas Ewart, grocer, Weldon, was summoned for a breach of the Food and Drugs Act at that place on May 14th.—Mr. Thomas Mattinson, Inspector of Weights and Measures under the Northants County Council, prosecuted, and Mr. C. W. Lane defended on behalf of the Kettering and District

Grocers' Association. Mr. Mattinson said the offence had been really committed by the wholesale dealers. He did not say that Mr. Ewart had not adulterated the syrup. Mr. Lane said he should be prepared to plead guilty, but he thought he should be able to show that a very technical offence had been committed. It was with some diffidence that he had advised his client to plead guilty, for in a precisely similar case a bench of magistrates had dismissed the summons. After having explained the difference between old treacle and what was known as golden syrup, Mr. Lane said his client bought a case of tins of golden syrup, and that was some time before there was any question raised as to whether this was a mixture. Mr. Ewart had been in Weldon over 30 years. The Chairman: We do not look on Mr. Ewart as the actual purveyor. Mr. Lane, continuing, said the case was not one of ordinary adulteration, for nothing injurious had been added. Mr. Mattinson: I don't agree to that. The Chairman: I suppose your contention is that the purchaser did not get what had been asked for? The label on the tin read as follows: "Natural golden syrup. This contains, besides sugar, certain substances (including glucose) which are not sugar, but are at present in the raw material. These substances retard the crystallisation of the sugar, but cannot prevent it for an indefinite time. No chemicals have been used in preparing this syrup, but to lengthen the time during which it will remain clear, additional glucose has been added. This glucose, manufactured from maize, is as nutritious as the original syrup." Mr. Mattinson said the analyst certified that the sample purchased contained 60 per cent. of glucose and 40 per cent. of sugar cane.—Mr. Lane said it was unfortunate that there was no decision of the High Court as to what was golden syrup.—The Bench ordered defendant to pay a fine of £2 and 6s. costs.

**BAKING POWDER PROSECUTION.**—Mr. William Williams, grocer, of the Little Brittox, was summoned by Frank Beardsley, Inspector of Weights and Measures under the Wilts County Council, for selling baking powder which contained 21 per cent. of alum. In his opening statement Mr. Beardsley said that alum was now regarded as a deleterious substance. It was probably used on account of its cheapness. He pointed out that whilst there was no doubt defendant sold the baking powder in the condition in which it was received from the wholesale house, the authorities had no option but to proceed against the retailers, unless they had taken the precaution to procure a warrant from the wholesale house, in which case proceedings would be taken against the wholesale dealer. The Act provided a loophole for the retailers, if they would take this precaution. The Ex-Mayor elicited from Mr. Beardsley that these proceedings were now rendered possible by an Act which came into force on the 1st of January, which amended the Food and Drugs Act by making baking powder an article of food; so that whereas on the 31st of December it was quite legal to sell an article, which on the 1st of January would be illegal. Walter Lashbrook, a lad of 10, was called to prove the purchase of the baking powder for Inspector Beardsley, and the latter produced the analyst's certificate, signed by Dr. Bernard Dyer, Public Analyst for Wilts, which showed that the sample in question contained 21 per cent. of alum and 79 per cent. of other ingredients. Alum was injurious to health. Mr. Williams said he sold the baking powder in perfectly good faith. It was part of the stock which was on the premises when he took over the business. If he had purchased it himself he should have taken a guarantee from the wholesale house. He had not sold half a dozen packets since he had had the business. Mr. Beardsley added that Devises stood very well in this matter. He had bought fourteen samples from grocers' shops in the town, and there was only this one that was not pure. The Mayor said they had taken a very lenient view of the case, but they had to administer the law as they found it. It was very important that the Inspectors should be supported, and that the public should be protected. The fine would be 5s. and costs, 9s. 6d.



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# Food and Sanitation.

SATURDAY, JULY 21, 1900.

## Dietetic and Hygienic Notes.

### Food Adulteration. Uniformity of Analysis Required.

WHILST the Government is dallying with the question of adulteration of wine and other articles of food, it may be interesting to point out the unsatisfactory state of affairs with regard to the methods of analysis. In Germany, Austria, Italy and the United States the importance of a uniform method of food analysis is recognised, and the absurdity is guarded against of having two or more separate results obtained by different analysts as to the extent of adulteration in articles of food. It is possible for two analysts to make an examination, say of wine, and arrive at different conclusions, owing to want of uniformity of method of analyses. On this subject Mr. W. Percy Wilkinson, whose paper on the adulteration of wine created such a stir recently, remarked to a representative of *The Age* that he had drawn Dr. Cresswell's attention to the fact that analysts were working under different methods in the analysis of milk, with the result that where one analyst went into court and swore that

there was from 1 to 2 per cent. of added water, another, having probably used a different method of analysis, would swear that no water had been added. Mr. Wilkinson suggested that a standard method should be adopted, the object being to get in the thin end of the wedge for a standard in all analyses. This question of a uniform method of analysis has received attention in Germany, Austria and in the United States. In Austria the difficulty has been met by appointing an "association of official agricultural chemists," under the control of the scientific director of the Department of Agriculture. The association holds annual meetings, at which the improvements made with the different methods of analyses of foods are considered, and provisional standards for use during the following year are then fixed. These standards are published, and all analysts in food prosecutions are bound to make use of these methods. How comprehensively the matter is dealt with may be seen from the associations' publication, in which each article of food, such as flour, milk, cheese, meal foods, rice, buck wheat, cloves, baking powders, wines, beers, canned foods, and so on, is dealt with separately. In Germany, too, the standards are laid down officially, and the thoroughness of the system may be gathered from the fact that a volume of over 300 pages is devoted to the "chemical examination and valuation of wines based on the official methods" by Karl Windisch, another treatise of a similar size being devoted to beer. "If we are to have," Mr. Watkinson says, "proper legislation against adulteration of foods, we must follow on the lines laid down by Germany, Austria and the United States. Otherwise it will be simply impossible to secure uniformity of results amongst different analysts. If one analyst goes into court with one result and another with a different result, there will never be any satisfactory determination in regard to food adulteration."

Melbourne Age.

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### Formaldehyde in Milk.

J. MOECHEL has a paper on this subject in the *Kansas City Medical Record*, of which the *Journal of the American Medical Association* publishes the following abstract:

"Moechel is strongly in favour of the use of small quantities of formaldehyde as a milk preservative. His experiments were made on not only animals, but human beings, and therapeutic experiments on children. As a result he believes the proper percentage of formaldehyde should be allowed to be a benefit rather than deleterious in milk, and that it is much better than the process of pasteurization, which destroys the amylolytic property possessed by raw milk, modifies the butter fat and changes milk-sugar into caramel. The reasons he gives for his opinion in favour of formaldehyde are: '1. It does not interfere with the human gastric, intestinal or ptyalin digestion. 2. Infants that did not prosper with various kinds of infants' food and milks, also cow's milk prepared according to the best authorities, at once changed for the better when supplied with milk treated with formaldehyde—and they continued to augment in weight and health. 3. An insignificant amount, 1 to 150,000, and not more than 1 in 50,000 preserved the milk from souring for a few days. Whether the same percentage destroys the bacteria or inhibits their growth will be shown by further investigations, now under way. Formaldehyde is the best milk preservative and does not introduce any mineral matter. These conclusions are preliminary, as our conclusions are not yet finished, but they are based upon strong facts, which we obtained from experiments made by us up to the present time. In order to prevent decomposition of milk, we regard it as entirely admissible to add formaldehyde (pure) in proper quantity after milking and not later, and therefore by the only permissible one, the dairyman.' The proper proportion of formaldehyde seems to be about 1/80,000, according to the results of experiments in feeding reported to Moechel by Dr. F. W. Froehling, who conducted this part of the investigation."



### On Commercial Pepsin.

THE enzymes termed pepsin and trypsin are expensive substances used as aids to digestion. Pepsin is obtained from the mucous membrane of the pig, sheep, or calf. Trypsin, or enzyme, which, like pepsin, is a proteolytic ferment, is procured from the pig's pancreas. Pepsin is an official preparation of the British Pharmacopœia, the dose being from 5 to 10 grains. It is, however, much more frequently employed as glycerin of pepsin (*Glycerinum pepsini*), a solution of pepsin in water, hydrochloric acid, and glycerin. Of this solution 1 drachm contains 5 grains, or 1 cubic centimetre, 0·0914 gramme.

Trypsin is not used in a separate state, but it is the principal constituent of the official liquor pancreatis. This is a solution of the non-fatty part of the pancreas in alcohol of 20 per cent. strength.

Great care should be taken in the preparation of pepsin, and the stomachs which yield it should be fresh and healthy. If it is heated much above 50° C. its digestive properties are impaired, and at 100° C. completely destroyed. The same observations apply to trypsin.

According to the Pharmacopœia, pepsin should dissolve 2,500 times its weight of hard boiled white of egg. The process, as laid down in the Pharmacopœia, is as follows:—12·5 grammes of white of egg, 125 cubic centimetres of acidulated water, containing about 0·2 per cent. of hydrochloric acid, and 0·005 gramme of pepsin are digested together at 105° F. (40·5 C.) for six hours, and shaken freely, the coagulated white of egg dissolves, leaving only a few small flakes in an almost clear solution. There are some details to be attended to which I need not particularise.

As regards the pancreatic solution, it is tested as follows:—If 2 cubic centimetres of the solution, together with 0·2 gramme of sodium bicarbonate and 20 cubic centimetres of water, be added to 80 cubic centimetres of milk, and the mixture be kept at 113° F. (45° C.) for one hour, coagulation should no longer occur on the addition of nitric acid.

By a recent order of the Local Government Board for Ireland the Guardians of the Poor Law Unions are required to have specimens of the drugs supplied to their infirmaries and dispensaries periodically examined. Since June 27th, 1899, twenty-one specimens of glycerin of pepsin have been sent to me for examination. On that date a specimen received from Shillelagh Union was found to possess no digestive properties whatever—it was absolutely inert. In July a sample received from Galway Union was a fairly good one. A second sample from Shillelagh Union was little superior to the first; it came to hand on July 29th. A sample from Gorey Union, examined in August, had one-half the digestive power which it should possess. In the same month a sample from Athy Union proved to be practically worthless. A specimen received in August from Sligo Union was found to be unfit for use. A specimen from Galway Union was tested in September. Five times the quantity of the glycerin of pepsin specified in the Pharmacopœia did not quite digest the prescribed quantity of egg albumin. In September a specimen from Armagh Union was found to be worthless. In September three specimens were received from Swinford Union. One had lost by far the greater portion of its digestive power, and the others were practically useless. A sample from Downpatrick Union, received in September, was practically useless. In September a specimen was examined for Tullamore Union; it possessed one-tenth only of the digestive power. A sample examined for Cavan Union in September retained most of its digestive power. A sample from Cookstown, tested in October, had one-tenth only of the proper strength. A sample received in the same month from Limerick Union had lost nearly all its fermentative power. In November a specimen from Carrick-on-Suir Union was found to possess the full power of dissolving albumin which the Pharmacopœia ascribes to pepsin. In December a specimen

from Shillelagh Union proved to be practically correct. One specimen of liquor pancreatis was sent; it came from Cookstown Union, and was practically useless.

In February, 1900, a specimen of pepsin examined for Mullingar Union had no appreciable effect on albumin when used in the proportion mentioned in the Pharmacopœia. Employed in ten times the prescribed quantity, about three-fourths of the albumin was dissolved.

In March specimens of pepsin examined for Naas and Donegal Unions were found to be as slightly operative as the Mullingar sample.

A specimen of pepsin from Swinford Union, examined in March, was found to possess only one-fourth the power of digesting albumin which it should possess.

Pepsin examined in March for Magherafelt Union was fairly good, as it dissolved 75 per cent. of the prescribed quantity of albumin.

In March a specimen from Dunfanaghy Union, when used in ten times the prescribed quantity, digested three-fourths the proper amount of albumin.

A specimen of glycerin of pepsin examined in March for Athlone Union was found to be only slightly deficient in digestive power. Such also was the case with a specimen from Claremorris Union.

Three specimens of pancreatic liquor were examined in March; one from Donegal Union was good, the others from Dingle and Carrickmacross Unions were only slightly deficient in the power of coagulating milk.

It will be seen that out of twenty-one specimens of glycerin of pepsin tested only four were perfectly correct, nine were wholly useless, and eight had lost from 25 to more than 90 per cent. of their digestive power. There did not seem to be any difference between the samples due to temperature, as both good and bad samples came in hot and cold weather.

Of five specimens of pepsin itself, three had less than one-tenth of the proper albumin dissolving power; two were deficient to the extent of 25 per cent. Of the four specimens of liquor pancreatis one was correct, two were slightly defective, and one was useless.

As I was not informed as to the dates on which the samples were received in the infirmaries and dispensaries, it is impossible to declare whether the want of digestive power was due to instability of the article or to original defect. In future the date on which the drugs are received will, I understand, be communicated to the analyst.

It is to be regretted that the Pharmacopœia does not give a good process for preparing pepsin, for I have no doubt imperfectness in the preparation of this article is the cause of so many bad specimens being met with.—By Sir CHARLES CAMERON, C.B., M.D.

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### Adulterated Baking Powder.

WHILE appreciating the efforts of the County Authorities to procure pure food stuffs we are heartily in sympathy with the shopkeepers who are now being raided by the officials, and who, under circumstances over which they have practically no control, have to suffer for offences committed by the manufacturers. Until the beginning of the year, we believe that alum was not legally regarded as an adulterant of baking powder. It is easily conceivable that a retailer may still possess a small stock of powder made before the new law took effect. In face of the changed legal aspect it would perhaps be sound economy to destroy what remains of an old consignment. Where this is not done it will always be possible for an Inspector to take possession of what is now termed an adulterated article. The matter is very serious from a shopkeeper's point of view, but until the new regulations have had time to get thoroughly in working order, we cannot think that the public will be so unjust as to condemn a retailer for a fault which should be visited on others.—*Salisbury Times*.



## Weights and Measures Notes.

### Unjust Weights and Scales at Norwich.

HENRY MARRISON, shopkeeper, Magdalen Street, was summoned for having in his possession an unjust weight and scales on June 20th. Mr. F. W. Markham said he visited the defendant's shop to test the weights, and found one of the weights had a plug out. He spoke to the defendant's wife, who said it had been like that several months. He also examined the weighing machine which was standing on the counter and found it 2oz. against the purchaser. The wife said the machine had recently been repaired, and upon its return she tested it and it went down "lump." The Chief Constable said there were five other cases for incorrect weights, and two cases for scales, but he thought he would only take one of each. The defendant was fined £1 and 6s. 6d. costs in each case, or in default fourteen days.

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### A Year's Work in Weights and Measures in Birmingham.

THE Chief Inspector of Weights and Measures for the City of Birmingham has reported to the Markets and Fairs Committee that during the year ended the 31st March last 17,076 visits of inspection were made, as against 17,295 in the previous year. 122,578 weights were tested, of which 89,870 were found correct, 32,560 required adjusting, and 148 were seized as being seriously deficient or unfit for use; 187,393 measures were examined, of which 1,596 were incorrect, and 3 were seized; 28,200 weighing instruments were inspected, of which 25,593 were accurate, 2,583 would not pass the prescribed test, and 24 were seized; 23 prosecutions were instituted for offences against the Weights and Measures Acts and the Coal Bye Laws of the City. Convictions ensued in each instance, the fines and costs amounting to £62 14s. 6d. In the previous year 24 persons were convicted, the penalties amounting to £55 15s. 6d. The indoor work was as follows:—232,208 weights and measures were compared with the corresponding standards; 215,826 were stamped, 15,957 rejected, and for 425 which were already stamped, no fee was charged; 27,094 weights and measures were adjusted; 15,360 weighing instruments were verified, of which 14,246 were

stamped and 1,114 refused. The fees for stamping and adjusting amounted to £1,346 10s. 7d., against £1,394 2s. 11d. during the previous year. So far little advantage has been taken of the Weights and Measures (Metric System) Act. During the year 44 metric weights have been stamped, and a few compound lever-weighing machines graduated to this system have also been verified. The staff of the department consists of one chief inspector, three inspectors, four outdoor assistants, three indoor assistants, one adjuster, and one clerk, thirteen in all, and the cost to the ratepayers for the past year, as representing the expenditure beyond the revenue earned in fees and fines, was £369 5s. 6d. The total expenditure was £1,762 2s. 5d.

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### Weights and Measures Inspection in the West Riding.

TRADERS and others will be interested to learn that, compared with last year, the number of prosecutions instituted by the West Riding County Council for offences against the Weights and Measures Acts show a decrease this year of 13 per cent. This is due, the authorities believe, to the greater care exercised by traders and to the greater facilities for inspection and adjustment now afforded them. The half-day fixtures for the convenience of traders in isolated parts of the Riding have been found to work successfully, and the removal of fixtures from licensed premises has enabled the inspectors to carry out their work better and with less inconvenience to the public. The annual report of the Chief Inspector (Mr. Arthur Hayley) says that notwithstanding the extension of the County Boroughs and the consequent reduction of the area of the West Riding, the work of the department is increasing. The growth of colliery centres calls, he adds, for greater attention at collieries, so that the machines in use both for the purposes of trade and the ascertainment of wages may be regularly tested.

Mr. Frederick S. Turner, Assistant to the Inspector of Weights and Measures for the Sowerby County District, has been appointed Inspector for the Central District (Wakefield), *vice* Mr. Ernest Crabtree, resigned, at a salary of £120 a year.

## Cold Storage Notes.

### Ice Making and Cold Storage in Coventry.

ICE-MAKING has now been added to the enterprises carried out in Coventry. There is a good demand for ice, particularly during the summer, for various purposes, and it has been found in other towns where ice-making is carried out, that there is a call for the same practically all the year round. Closely allied with this industry is the important provision of cold storage for perishable foods, by which the chemical processes leading to decomposition are arrested, and the article, whether meat, game, poultry, milk or fruit, kept sweet for a considerable time. In fact a well-known expert in the refrigerating trade was recently asked in the course of an action at law how long certain pheasants could be kept good in cold stores, and completely nonplussed the cross-examiner by replying "Forty years." Such is claimed to be thoroughly practicable, having due regard to maintenance of the proper temperature equably during the period. Cold storage is certainly one of the

most remarkable trade developments of modern times, and the utilisation of refrigerating processes has developed wonderfully during the last few years. By means of refrigeration, an enormous amount of food is carried thousands of miles, such as meat from America and New Zealand, and rabbits from Australia. Vessels engaged in this trade are fitted with cold storage chambers, and whereas in 1880 the first consignment of frozen mutton numbered 400 carcasses, vessels are now being fitted with accommodation for 120,000 each.

The Coventry Pure Ice and Cold Storage Co., Ltd., was formed in September last, with Mr. F. Snape as the leading spirit, supported by Messrs. W. H. Harris (Stoke Park), J. R. Welton and H. Whiteman. The premises, situate in Freeth Street, were previously used as a malt-house, and they have been improved and extended and made suitable for their new purpose. The process of ice-making is carried out under the Linde system of refriger-



ation, and is wonderfully simple. In the ice tank, rows of moulds, containing pure water, are placed, and the brine in which they are suspended is reduced 14 degrees below freezing point by the employment of liquid ammonia. The water in the moulds is gradually frozen into solid blocks, each block weighing about two cwt. Whilst the process of freezing is going on, the water is undergoing agitation, by means of a special system of aeration, with the object of breaking up the air bubbles and so obtaining a clear block of ice, otherwise the retention of the air bubbles gives the ice a snowy or limelike appearance. When the ice blocks are formed, the moulds are lifted by a running crane, and severally dipped into a tank of hot water, called the thawing-off tank, which loosens the block and enables it to be tipped out on to the carting stage ready for distribution. The moulds are then taken back to the other end of the tank, and automatically re-filled with the exact weight of pure water required for the formation of another two cwt. block of ice. The water used is drawn from the Coventry Corporation supply, which is known to be free from impurities, thus removing the objection to the use of ice on account of ignorance, or suspicion as to its origin. The blocks of ice turned out are remarkably clear and pure and compare very favourably with the ice produced in other towns. The plant will turn out 30 tons per week, and there are already several customers who take large quantities. Mr. W. H. M. Barton, who is in charge, willingly obliges anyone requiring the smallest quantity, and in this way has conferred a boon upon many who have need of the purest ice for medical purposes.

The cold storage chambers are two in number, with a capacity of 5,000 cubic feet. The chambers are insulated with several layers of match boarding and seven inches of silicate of cotton. Inside each chamber is a separate refrigerating chamber containing the ammonia coils which reduce the atmosphere, while a Blackman's fan drives the air from the coils into a delivery air duct and draws it from the opposite side of the room into a suction duct. The air in its course passes over the refrigerating coils causing it to rapidly cool. Brine is constantly being pumped over the coils to prevent snow being formed on them and thus insulating them. One of the chambers is kept at a temperature of 25 degrees for the storage of frozen goods, and the other at 34 or 35 degrees for the preserving of raw goods. The motive power for driving the machinery,

including the ammonia compressors, one for the ice-making and the other for the cold stores, is supplied by a Crossley 30-h.p. gas engine.

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#### Southampton and Cold Storage.

MR. T. HARTLEY ROBERTS, the Chairman of the Southampton Cold Storage and Lairage Company, has addressed the shareholders on the subject of the recent accident at the Southampton Docks. He points out that whilst it is unhappily true that a very deplorable accident has occurred, it was by no means so serious, either as regards the injuries to the workmen, or to the works in course of erection, as the newspaper reports have represented. There has been no accident at or injury to the cold storage buildings, but some wooden scaffolding erected by the contractors, some distance from the cold storage building, and used by them for making concrete piles for the building, suddenly collapsed, owing, it is supposed, to a subsidence of the ground, killing one man and injuring four others, one of them seriously. The cold storage building was in no way affected, although a number of concrete piles in course of construction are damaged, which may possibly delay to some extent the erection of the buildings.

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#### Sheffield Pure Ice and Cold Storage Company.

THE annual meeting of this company was held on July 2nd, at the Cutler's Hall. Mr. Thomas Bookless, the chairman, presided, supported by Messrs. William Gunstone and Henry Hides (directors), Mr. Walter Sissons (secretary), and Mr. J. J. Parker (auditor). The Chairman, in moving the adoption of the report, which recommended a dividend of  $7\frac{1}{2}$  per cent., stated that the high prices of coal were involving the company in a largely increased expenditure for fuel. Of course, if they liked, they could raise their charges for ice and storage, the more so as their rates were lower than those of any similar companies, but they preferred to treat the public generously, and meet their needs at the low prices which had hitherto been in force. He believed this policy would be the best in the long run, and certainly would be appreciated by their customers. (Hear, hear.) The report was unanimously adopted. Mr. Wm. Ben Warner was re-elected a director, and Mr. J. J. Parker was re-appointed auditor.

## Official Reports and Notes.

### County of Hereford and Adulteration.

At the Herefordshire Midsummer Quarter Sessions, held on July 2nd, 1900, the Standing Joint Committee presented a report dealing with various matters, including the lighting and heating of the Shirehall. The Chairman, Sir Richard Harington, proposed that the report be received and entered on the minutes of the Court. Proceeding, Sir Richard referred to the decision of the Leominster Justices in a case of adulteration of milk. The Court, of course, was not in possession of the evidence upon which the Leominster Justices acted, and therefore it would be improper to criticise their action in the case. They might, for all they knew, have had some very special and good reason for imposing so small and trifling a fine as 6d., but what he wanted to impress upon his brother magistrates was that it was perfectly useless to go to the great expense the county did in keeping a public analyst and sending samples to be analysed, if, when a proper case of felony was made out, nothing but a nominal penalty was inflicted. The Chief Constable informed them (the Committee) that no defence was attempted in the case. The complaint was not that the milk was greatly deficient in strength, but that there was six per cent. of added water; which, *prima facie* looked like a serious offence. Therefore he hoped that those magistrates there, and other

gentlemen not present, would bear in mind the fact that in order to make the Acts of Parliament dealing with the adulteration of foods any use, they must be put into effect in such a way that people would be deterred from committing such offences. Alderman Blake seconded. Sir Herbert Croft observed that he had been reading the Food and Drugs Act, and he thought it would be desirable if the attention of the Leominster Bench and its clerk were called to it.

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### Sheffield Analyst's Report.

MR. A. H. ALLEN, Sheffield City Analyst, reports that during the quarter ending June 24th, 1900, he received, analysed, and reported on 27 samples of milk which were received from the Inspector's appointed under the Act. Nineteen samples proved to be genuine. Of the remaining eight, one was of very suspicious character, but not sufficiently bad to justify its positive condemnation. One contained 13 per cent. of added water. Another contained  $7\frac{1}{2}$  per cent. of added water, and was in addition deprived of at least one-fourth of its natural cream or butter-fat. The remaining five samples had been partially deprived of fat, containing respectively nine-tenths, nine-tenths, nine-tenths, seven-eighths, and seven-eighths of the minimum natural proportion of cream or butter-fat.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—At the Middlesborough Police Court, on July 6th, a farmer named Robert Walker was charged with abstracting cream from milk and selling milk with so much cream extracted. Mr. George Burnley prosecuted, and said that from one can of milk 13 per cent. of cream had been abstracted, and from another can 34 per cent. of cream had been taken. Mr. George Anderson spoke to taking samples of milk from two of defendant's cans. Mr. T. M. Barron, who defended, said that on the day when the samples were taken instead of mixing all the milk, so as to get an average yield of all the cows, the cans had been fastened down as soon as they had become full, and the yield unfortunately was not averaged. As it happened, one can contained a better quality of milk than the other. Defendant was called, and declared that the milk in question was put into the can exactly as it was taken from the cow, and nothing whatever had been abstracted from it. After a lengthy hearing the Stipendiary Magistrate said he did not think he would be justified in convicting defendant.

Charles Price, farmer, of Featherstone, was charged at the Wolverhampton Police Court on June 28th, before Mr. N. C. A. Neville (stipendiary) with selling milk in an altered state without notice on two occasions. Mr. G. F. Allwood, Inspector under the Food and Drugs Act, said that Mr. Price, who was reputed to be a well-to-do farmer, supplied milk to several retail sellers, and came to Wolverhampton every morning, bringing a fairly large quantity of milk, for which he charged 8d. per gallon. On May 7th witness was at the bottom of Alma Street, and saw Mr. Price deliver six gallons of milk under contract to Mrs. Fanny Bibb. Witness took a sample of the milk, and submitted it to the Public Analyst, who certified that the milk had been deprived of 24 per cent. of its cream. On May 13th another sample of milk was obtained from Mr. Price, and that was certified to have been deprived of 10 per cent. of its cream. On June 16th, another sample was taken, and the milk was found to be of good average quality. In reply to Mr. R. R. Rhodes, who defended, witness said that the defendant told him that the milk was as pure as the cows gave, but it was not so good when the cows were turned out early in the summer. Defendant remarked, when he took one of the samples, "I'll bet you 100 to 1 its pure." Mr. Rhodes said that there had not been any added water whatever, and there was no such charge against Mr. Price. The latter believed the milk to be absolutely pure and unadulterated. Mr. Price was now giving up the milk trade altogether rather than run the risks of it. Mr. Price gave evidence that he turned his cows out about the third or fourth of May. The nights became frosty, and he had to take them in again. The cows were then only giving half-a-gallon of milk each. No one abstracted any cream whatever. James Williams, the defendant's cowman, said the milk went straight from the cow house to the trap that went to Wolverhampton. He emphatically denied that either any skim milk or a spot of water went into the can. Mr. Neville said that the milk appeared to have been mixed with the previous night's skimmed milk. He fined the defendant £7 10s. and costs in the first case and £5 and costs in the other. A charge against Mrs. Bibb was withdrawn on payment of costs. Mr. Price paid the whole, amounting to £15 13s.

At Tredegar Police Court, on July 3rd, John Davies, collier, Beaufort, who was charged with selling milk from which 30 per cent. of fat had been abstracted. Mr. Thomp-

son, county analyst, proved his certificate, and said the lack of quality in the milk must have been due to abstraction, as there was no indications of water having been added. The wife of the defendant swore that she had not tampered with the milk in any way. The Bench imposed a fine of £5, including costs, and the Chairman strongly commented upon the importance, especially to young children, of being supplied with milk of the proper quality.

At Lambeth, on July 5th, J. L. Davies, of Havil Street, Camberwell, was summoned by the Camberwell Vestry, under section 9 of the Food and Drugs Act, 1899, for selling a certain quantity of milk or cream from a hand can without having his name and address conspicuously inscribed thereon. There was a second summons against the defendant for selling milk and water from which 10 per cent. of the original fat had been abstracted, so as to affect injuriously its quality, substance, or nature, and without making disclosure of the alteration. Mr. G. W. Marsden, solicitor to the Vestry, appeared in support of the summonses; and the defendant was represented by Mr. Ricketts, jun. The summons with respect to the hand can was first taken. Mr. Ricketts took the objection that a copy of the analyst's certificate was not served with the summons. The statute provided that in any prosecution under the Act there must be served therewith a copy of any analyst's certificate. Mr. Marsden: In this case we didn't want a certificate. Mr. Ricketts pointed out that it had been held in a case under the Margarine Act that even the admission of a servant that the article supplied was margarine could not be taken, and that there must be an analysis. How could the Vestry prove the defendant was selling milk or cream without an analysis? This was not a new point. It had been taken before and commented upon in the *Justice of the Peace*. Mr. Hopkins: Possibly. If I am driven to it I shall say there is no necessity for any such certificate. Mr. Ricketts: There must be an analysis. Mr. Hopkins: For what purpose? Mr. Ricketts: To show what the article is. In this case we are summoned for selling milk from a can. How are they going to show what the article was? It may have been chalk and water. Mr. Hopkins: You must take your case if you think fit. Mr. W. E. Groom, the Vestry Inspector, was called, and stated that on the 20th May last in Brunswick Square, Camberwell, he asked the defendant for a pennyworth of milk, and demanded to be served from a certain hand can. The defendant said, "It is milk and water." The witness said, "Very well, then, I will take it as milk and water." He drew the defendant's attention to the fact that his name and address were not inscribed on the hand can. Mr. Ricketts: Then you didn't get milk or cream? Inspector Groom: He told me it was milk and water. Mr. Ricketts: And you took it as such. Inspector Groom: Yes. Mr. Ricketts: And now you have summoned him for not labelling the can from which he was selling milk. Mr. Hopkins: I see the difficulty. After the Inspector has been told it is milk and water, but it is a difficulty one ought to listen to. The Act was intended to make it easy to prosecute milk sellers who sell adulterated milk. Answering the Magistrate, Inspector Groom said the defendant had with him a barrow containing a churn. The barrow bore the defendant's correct name and address. Mr. Hopkins said he thought the fact that the defendant's name and address was upon the vehicle containing the churn was enough. Mr. Marsden argued that the Act also required hand cans to be inscribed with the name and address of the seller. Mr. Ricketts, with respect to the second summons, for selling milk and water from which some of the cream had been abstracted, pointed out that the inspector asked for milk and water, and argued that if he had got one single drop of milk and all the rest water, that would have been



sufficient to satisfy his requirements. In the result Mr. Hopkins dismissed both summons.

At Coleford Petty Sessions, on July 4th, Thomas Godwin, of Coleford, butcher and farmer, was summoned for selling adulterated milk, on the 1st June. Defendant did not appear. P.S. Griffin saw defendant selling milk, a pint of which the constable purchased, paying 2d. for it. Having divided the same, and given defendant a portion, keeping a portion himself, he proceeded the same day to Gloucester, to the public analyst, Mr. George Embrey, whose certificate (produced) stated that the milk contained 13 per cent. of added water. A fine of 20s. and 18s. 6d. costs was imposed.

**BAKING POWDER PROSECUTIONS—GRAVE DANGER FOR GROCERS.**—At the Old Hill Police Court, on July 4th, Mary Ann Barnett, grocer, Springfield Lane, The Knowle, was summoned for selling adulterated baking powder and egg powder. Mr. Vernon represented the defendant. Mr. Van Troop, County Inspector, stated that until last year baking powder was not included in the Sale of Food and Drugs Act. The Act was amended, and the article was now included. Evidence was given showing how the powder was obtained. Mr. E. W. T. Jones, County Analyst, stated he found the powder contained 40 per cent. of alum, which, if taken into the human system, produced indigestion. Mr. Walter Bassano said if these articles were injurious it was necessary the sale of them should be stopped. Mr. Vernon raised a technical objection to the mode of procedure in dividing the packets, and quoted a case. The magistrates overruled the objection. Mr. Vernon then contended that it would be a great hardship upon the defendant to convict her, seeing that she purchased the packets sealed from the wholesale dealer, and had nothing whatever to do with the adulteration. Mr. Bassano: There is no doubt it is a great hardship, because the wholesale dealers are the real offenders, it being a proprietary article. Mr. Van Troop: Unfortunately, I cannot proceed against the wholesale dealers, because the defendant did not obtain a warranty. Mr. Bassano: Perhaps the defendant will get the amount of the fine imposed from the wholesale dealer. Mr. Vernon: I do not think so. Mr. Bassano: Tradesmen have not a bed of roses nowadays, because the roses are intermixed with thorns. Evidence was given showing that the egg powder was adulterated with 40 per cent. of alum. Mr. Bassano said the nation very properly demanded to be supplied with pure and wholesome food. Defendant was fined £3 2s.—Thomas Dyer, grocer, of Springfield, Rowley, was fined £3 2s. for similar offences.

At Wilts Quarter Sessions, Frederick Dowzell was summoned for selling baking powder so mixed with alum as to be injurious to health. Mr. Wise prosecuted, and said the proceedings were taken under the Food and Drugs Act. On June 6th, Mr. Simpson (the Inspector under the Act) visited the defendant's shop, 1, Weight Street, St. George, and bought some packets of baking powder. These he had analysed by Mr. Stoddart, the City Analyst, and they were found to be adulterated with 25 per cent. of alum, which made them injurious to health. Mr. Simpson having given evidence, the Bench inflicted a fine of £3 and costs.—George Bryant was summoned for a similar offence in regard to some egg powder. Mr. Wise said the defendant kept a shop at 1, Cossham Road, St. George. On June 6th Mr. Simpson visited the shop and bought two packets of the powder, which was found on being analysed to be adulterated with 23 per cent. of alum. Mr. Simpson proved the case, and the Bench fined the defendant £2 and costs.

**UN SOUND FOOD.**—Rachel Dywien, 267, Commercial Road, London, E., was summoned on July 7th, for being in possession of a quantity of tins of sardines, salmon, and condensed milk, which were bad and unfit for human food. Mr. Young, who prosecuted on behalf of the Vestry of Mile End Old Town, said defendant was charged with having the tinned goods for the purpose of sale. On the 14th ult. Dr. Taylor, Medical Officer, and Mr. Twaites,

Sanitary Inspector, visited defendant's shop, and out of 60 tins of salmon no less than 19 were bad, and a case of condensed milk, which defendant's son said were good, on examination were found to be all bad. Defendant told the officers her husband had bought the goods at a sale, but refused further information. Since the issuing of the summons defendant, it was stated, had tried to get the parish dustman to say she had asked him to cart away the tins, and that he had neglected to do so. Mr. Twaites said he heard defendant's son say, "They are no good, and not for sale. We keep them just to fill up the shop." All the bad tins were blown, and unfit for food. The tins seized were afterwards brought to that Court and condemned by the presiding magistrate. The dustman, who Mr. Mead termed an "incorruptible dustman" owing to his style of giving evidence, stated that defendant had never requested him to take away the tins. In reply to the charge, Dywien said the tins were not for sale. Mr. Mead imposed a penalty of £5 and 23s. costs. The money was paid.

**GOLDEN SYRUP PROSECUTIONS.**—At the Kettering Police Court, Thomas Ewart, grocer, Weldon, was summoned for breach of the Food and Drugs Act at that place on May 14th, by selling golden syrup adulterated with glucose not of the nature and quality demanded by the purchaser. Mr. Thos. Mattinson, Inspector of the Northamptonshire County Council under the Food and Drugs Act, prosecuted, and Mr. C. W. Lane defended on behalf of the Kettering and District Grocers' Association. Mr. Lane said he proposed to plead guilty, but he thought he should be able to show that a very technical offence had been committed. Mr. Mattinson said he believed the defendant sold the article as he received it from the wholesale dealer. The manufacturers were Macfie and Son. Mr. Lane said it was with some diffidence that he had advised his client to plead guilty, for in a precisely similar case a bench of magistrates had dismissed the summons. Mr. Lane then went on to explain the difference between the old treacle and what was known as golden syrup, the latter having glucose added to it to preserve its clearness. In April of last year defendant bought a case of tins of syrup, and that was some time before there was any question raised as to whether this was a mixture. He (Mr. Lane) suggested that all the syrups sold at the present time were imitations of the original syrup, and that what was now added was more nutritious than that made from pure sugar. Still, he had to admit that, however much they put anything in to improve the quality, that did not free them from liability. Mr. Ewart had been in Weldon over thirty years. The Chairman: You need not go into that, for we do not look at Mr. Ewart as the practical purveyor. Mr. Lane, continuing, said this was not an ordinary case of adulteration, for nothing injurious or with the idea of fraudulently increasing the bulk had been added. Mr. Mattinson: I don't agree to that. The Chairman: I suppose your contention is that the purchaser did not get what he asked for? Mr. Lane said the tin had the following label upon it: "Natural golden syrup. This contains, besides sugar, certain substances (including glucose) which are not sugar but are at present in the raw material. These substances retard the crystallization of the sugar, but cannot prevent it for an indefinite time. No chemicals have been used in preparing this syrup, but, to lengthen the time during which it will remain clear, additional glucose has been added. This glucose, manufactured from maize, is as nutritious as the original syrup." Mr. Mattinson said Messrs. Macfie and Son admitted that that label had no effect. They had since issued a circular to their customers not to sell the product as golden syrup. Mr. Gotch: Is that now sold as golden syrup? Mr. Lane: It is now sold without the word "golden" on it. Mr. Gotch: Can you get golden syrup? Mr. Mattinson: Yes, I can buy a lot. Continuing, Mr. Lane said the case was brought from a well-known wholesale house. Mr. Mattinson said he did not admit what Mr. Lane had said that that was not the same as any other adulteration. Putting glucose to treacle was the



same as adding water to whisky, or milk to water. Glucose lessened the sweetening power. The Chairman: Is the term of golden syrup understood as well as that of whisky? Mr. Mattinson said the Recorder of Liverpool had found that golden syrup was the produce of sugar cane. The analyst had found in this instance that the sample contained 60 per cent. of glucose and 40 per cent. of sugar cane. Mr. Lane said it was unfortunate that there was no decision of the High Court as to what golden syrup was. The Bench imposed a fine of £2 and 6s. costs.

**SPIRIT ADULTERATION PROSECUTIONS.**—On June 30th, at the Doncaster West Riding Petty Sessions, James Naylor, innkeeper, Askern, was summoned at the instance of William Henry Wilson, Inspector under the Food and Drugs Act, charged with having sold adulterated whisky on May 9th. Mr. Tovey appeared for defendant. The Inspector said that on May 9th he visited defendant's premises at Askern and purchased a half-pint of whisky, which he divided into three parts, giving one to the defendant, retaining one for himself, and forwarding the third to the Public Analyst, whose report stated that the strength of the sample submitted to him was 28.9 per cent. under proof. The defence was that defendant was from home, and in his absence a youth named Herbert Simms mixed a gallon of whisky, and in so doing added an excess of water. Defendant was ordered to pay the costs. —Matthew Henry Middleton, also an innkeeper at Askern, was accused by the same complainant of having sold adulterated gin on May 9th. Mr. Tovey defended. In this case the sample submitted to the analyst was 42.9 per cent. under proof. The defence was that defendant was in ill-health, and on the evening of the date preceding that of the Inspector's visit his son mixed the spirits. Defendant's son admitted that when mixing the spirits he did not use a hydrometer. A penalty of 10s. and costs was imposed.

At Derby, on July 9th, George Lee, landlord of the Freehold Tavern, Franchise Street, Derby, was fined 5s. and costs for selling a quart of gin containing 4.1 parts of added water. The Town Clerk prosecuted, and the defendant said the gin had not been tested for four days. He would be more careful in the future.

At Tredegar, on July 3rd, William Davies, landlord of the Tredegar Arms Hotel, Rhymney, was fined £5, including costs, for selling whisky which was 35.60 degrees below proof. In reply to Mr. Moore, defendant said he had a hydrometer, but he did not know how to use it. He diluted the spirits according to the directions contained on the reducing card.

**MILK OF SULPHUR PROSECUTIONS.**—At Swadlincote Petty Sessions, Henry Hoskisson, shopkeeper, of Newhall, was summoned by Captain Sandys for selling four ounces of milk of sulphur, not coming up to the quality and requirements of the Food and Drugs Act. Evidence as to the analysis having been given, defendant stated that he bought the drug in good faith of a Derby firm, whose name he mentioned. Having no knowledge of chemistry he was not able to tell from an inspection of the articles whether they were pure. Captain Sandys stated that the public must be protected, and that shopkeepers had been warned. Defendant replied that he was as innocent as any man present; he sold it just as he bought it. The Magistrates, while not believing the offence was wilful, inflicted a fine of 7s. 6d. and costs, 25s. 6d. in all.

**BUTTER AND MARGARINE PROSECUTIONS.**—At the Doncaster West Riding Police Court, on July 7th, Richard Grainger, grocer, Mexboro', was summoned for selling adulterated butter at Mexboro' on the 22nd May. Joseph Wilson, inspector under the Food and Drugs Act, stated that on the date named he visited the defendant's shop in Bank Street, and purchased 1 lb. of butter. The Public Analyst's certificate showed that there was only five per cent. of real butter, and the remainder was margarine. Defendant said he had bought the butter at a considerably higher price than the market price, from a Leeds firm,

having paid 107s. per cwt., which was 7s. above the ordinary price. Defendant said that he had been in business for four years, and had dealt with the Leeds firm for eighteen months. He did not know that the article was not pure. The magistrates said that in the interests of the public they could only deal with the case so far as the defendant was concerned, and would inflict a penalty of 40s. and £1 11s. 6d. costs.

**MERCURY OINTMENT PROSECUTION.**—At Skipton Petty Sessions, Fredk. Dickens, chemist, in the employ of the Skipton branch of Taylor's Drug Stores (Limited), was summoned, under Section 6 of the Food and Drugs Act, for selling mercury ointment not of the substance and quality demanded. The information was laid by Mr. A. Randerson, Inspector under the Act for the West Riding County Council, stationed at Skipton. The defendant Company was represented by Mr. W. E. Farr, solicitor, Leeds.

The Inspector's evidence went to show that on May 14th, he visited the Skipton branch of the defendant Company, and, among other purchases, obtained 2 oz. of mercury ointment. The request for mercury ointment was first made to the shop youth, and then the defendant took the order and supplied it. Having paid the price demanded, which was the same as he had paid elsewhere, the Inspector divided the sample in the usual three parts, one of which he sealed and forwarded by registered post to the Public Analyst (Mr. A. Allen, of Sheffield); the other he left with the defendant, and the third he retained. He informed the defendant of the purpose for which the sample was required, and in due course received the certificate of the Public Analyst, who found that it contained:—Mercury 12.5 per cent., lard and suet 87.5 per cent. "Mercury ointment," said the analyst, "prepared according to the 'British Pharmacopœia,' contains 48.5 per cent. of mercury; hence the medicinal activity of the sample submitted would only be one-fourth that of the ointment prepared as directed in the 'B.P.'"

Cross-examined by Mr. Farr, the inspector admitted that in addition to the mercury ointment he obtained 2 oz. tincture of iodyne and a similar quantity of Gregory powder. He produced the label, which stated "Mercurial ointment (poison)." He did not say he required the ointment according to a certain prescription because it was not necessary to do so. He did not mention the "B.P."; neither did he say he wanted strong ointment. He simply asked for mercury ointment and expected to get it as laid down in the "B.P." It was deficient in mercury, though the three necessary ingredients were comprised in it. Witness would not say the diluted ointment was injurious to health—he was not a medical man; neither would he say there was any imposition on the part of the defendant.

Colonel Robinson: Was this ointment mixed in your presence?

The Inspector: I didn't see it mixed. The defendant went behind the screen.

Replying to further questions the Inspector said the proceedings were under Section 6 of the Act.

Mr. Farr contended that the offence came under Section 7, and as the sample contained the necessary ingredients demanded by the purchaser, there was no offence.

The Magistrates' Clerk (Mr. Wood): I shall advise against you.

The Chairman: Your contention is that as it contains the necessary ingredients, the quantity doesn't come in. But if a purchaser asks for a compound drug how is he to know that he gets the genuine article?

Mr. Farr pointed out that the complainant got the mercury ointment he asked for, and he should submit evidence showing that the drug commonly sold to the public was mercury ointment diluted. Nothing was said by the Inspector as to requiring mercury ointment according to the standard of the "B.P."



Mr. Illingworth : Then according to your argument you keep both strengths of mercury ointment ?

The Inspector : Section 8 of the Act provides that if any injurious drug is sold it must be labelled as such.

The Chairman : When a purchaser asks for mercury ointment, he wants it of such a nature and standard as will be effective.

Mr. Farr : We would have supplied him with the ointment according to the "B.P." directions if he had asked for it.

The Chairman : You contend that he must state the quality he wants ?

Mr. Farr : I do.

The Inspector pointed out that the case of *White v. Bywater* laid it down that it was not necessary for a purchaser to state that he wanted a drug prepared according to the "B.P."

Mr. Farr said he had other cases giving a different interpretation, but

The Inspector objected to their being put in on the ground that they were unauthorised reports.

The Chairman : We don't want to be bothered with any decisions except those reported in official publications.

Mr. Farr contended that the magistrates must find that the drug sold was prejudicial to the purchaser as a member of the public before they could convict, and he was prepared to prove that it would be dangerous to supply purchasers with mercury ointment, prepared according to "B.P." directions, unless they produced doctors' prescriptions to that effect. His clients were defending that case because they believed that if the ointment was sold according to "B.P." strength it would be prejudicial to the public, who usually obtained mercury ointment diluted.

Frederick Dickens, the nominal defendant, said he was a qualified chemist in the shop of the defendant Company at Skipton. The evidence of the Inspector as to what took place in the shop was correct. Had he asked for mercury ointment of "B.P." strength, witness would have supplied him with mercury of 48.5 per cent. When a purchaser asked for mercury ointment, it was his practice to supply a diluted preparation, such as was given to the inspector. He had never once during his six years' experience as a qualified chemist supplied mercury ointment prepared according to the "B.P." strength. The effect of mercury of the "B.P." strength frequently used by a person of delicate constitution would be salivation, mercury poisoning, and, finally, death. The popular demand was for the diluted preparation.

The Magistrates' Clerk : Do the public ask for the diluted preparation ?

Defendant : They usually ask for blue ointment.

The Magistrates' Clerk : Do they know what it is ?

Defendant : The British public don't know the constitution of medicinal preparations.

Cross-examined by the Inspector : Had you known I was Inspector under the Food and Drugs Act, what would you have given me ?—I should have supplied you with the diluted preparation.

Defendant : If I distinctly understood him to ask for mercury ointment, I should have supplied him with "B.P." strength.

Mr. Illingworth : If you knew he wanted it for analysis ?

Cross-examination continued : When the general public asked for blue ointment, they don't expect to get "B.P." strength ?—Certainly not.

You say it would be injurious to the purchaser if prepared according to the "B.P." ? If the purchaser is of delicate constitution, most decidedly so.

If the purchaser hadn't a delicate constitution, what would the effect be ? That's out of the question. (Laughter.) We allow for delicate constitution, not for strong ones. (Laughter.)

The Chairman : Evidently the defendant took you to be of a delicate constitution. (Renewed laughter.)

The Inspector : If a doctor orders a person to get mercury ointment has he a right to be supplied with it of full strength ? If the doctor has ordered it.

Do you take the "B.P." as your standard for preparations ? Not necessarily.

If anyone asked for paregoric what would you give them ? I should give them proper paregoric, according to the "B.P."

And if anyone asked for mercury ointment you expect them to take a substitute ?

S. H. Keeble, chemist, carrying on business in Leeds, and, having 27 years experience, said if a person asked him for mercury ointment he should supply it in a diluted form unless he knew the purpose for which it was required.

Major Tempest : Would you tell the person it was diluted ?

Witness : I don't suppose people know.

The Chairman : Would you tell the purchaser that it was diluted, and not the full strength ?

Witness : I should in some cases, and in some cases not.

Mr. Farr : Would it be prejudicial to the purchaser to supply it promiscuously according to the "B.P." preparation ?

Witness : I should not supply it without a medical prescription.

Cross-examined by the Inspector : Are you aware that the defendant has been to the medical men of the town and asked them to appear here and cloak the Company.

Mr. Farr protested that such a question had nothing to do with the case.

Witness said he was not aware of the matter. He added that the Inspector could go into the whole of the chemists' shops in Leeds and would be supplied with a diluted preparation of mercury ointment. If such were held to be an offence the whole of the chemists could be hauled up before the Bench for selling diluted drugs.

Kenneth McLean, Harrogate, a chemist of 35 years' experience, said it was customary to supply the reduced form of mercury ointment. It was a safeguard to the public to do so.

The Chairman : Do you hold that the "British Pharmacopœia" is a standard work ?

Mr. Farr : We say it is a standard work for doctors' prescriptions.

This closed the case, and the Bench retired for consultation.

The Chairman announced that they considered a case of adulteration had been distinctly proved. They held that the public must be protected so that when they asked for a certain article they could rely upon getting it. Possibly a doctor could send a person for a certain drug, and he would certainly expect to get the genuine article. The Bench thought it was a clear case of adulteration, and they were sorry to see it in a large firm like that of the defendants. They would be fined 60s. and costs, and if they were not perfectly satisfied the Bench would be ready to state a case for a Higher Court.

Mr. Farr thereupon formally applied for the magistrates to state a case, and this was at once agreed to.

The total fine and costs was £4 0s. 6d.



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## Food and Sanitation.

SATURDAY, JULY 28, 1900.

### Grocers and Baking Powder Manufacturers.

Why not Claim Damages from the Manufacturers.

In the eyes of a goodly section of the manufacturers of baking powders the spectacle of a respectable hard-working Grocer being disgraced by a prosecution for adulteration and losing his time, reputation, and custom, in addition to heavy law costs and a fine, appears to be a matter of no account. The manufacturers delude the grocer by lying advertisements, and get him to sell their adulterated, fraudulent rubbish, and when he comes within the meshes of the law laugh at him as a poor tricked fool. The marvel is that the Grocers, so shamefully treated, do not assert their rights and bring the rogues to justice. We maintain that it is their duty to their fellow traders and to their own characters to bring the fullest public exposure upon manufacturers guilty of these practices, to sue them for damages and fraudulent misrepresentation.

The *Coventry Telegraph* commenting on recent prosecutions at Rowley says:—"At Rowley (Staffordshire) local grocers were summoned for selling adulterated baking and egg powders containing, according to the analyst, 40 per cent. of alum, such an admixture being calculated to produce indigestion 'and other ailments.' We should think so. An ostrich's digestion, even, would fail before 40 per cent. of alum. Very properly the sale of the powders had been forbidden, and not improperly, perhaps, local tradesmen were fined rather heavily for selling them; but the wholesale dealers (whom the Magistrates regretted were not before them) seem altogether to have escaped. Is there no means of reaching them by the long arm of the law? Retail dealers are often profoundly ignorant as to the composition of the articles they sell. Possibly they ought to be better informed; but the wholesale dealer, who has the fullest knowledge, should not be allowed freely to distribute goods that are so largely and dangerously adulterated.

At Wolverhampton the other day, Thomas Rowlett, 30, Pearson Street, was charged with selling baking powder containing 23 per cent. of alum.

Mr. G. F. Allwood, the Food and Drugs Act Inspector, in prosecuting, commented upon the manner in which many manufacturers were advertising their baking and egg powders as "warranted free from alum."

Mr. Rowlett was fined 10s. and costs.

This case, as Mr. Allwood proved, revealed an effrontery on the part of the manufacturers, which seems incredible.

The powder in question was labelled "Canadian," and in the face of this prosecution proving the baking powder contained 23 per cent. of alum, *The Grocer* of July 7th, 14th, and 21st contains the following advertisement:—

"CANADIAN"  
BRAND

BAKING AND EGG POWDERS.

WARRANTED FREE FROM ALUM.

No Chemical Substitutes used, consequently guaranteed  
ABSOLUTELY PURE.

The "Canadian" Brand Baking and Egg Powders have a world-wide reputation for their intrinsic value, novel packing, and neat and attractive get-up.

Manufactory:

ROUEL RD., BERMONDSEY, LONDON, S.E.

If ever there was a case in which the Grocer should vindicate his character this is one.

Grocers must indeed be blind to their own interests if they consent to be so abominably imposed upon.



## Dietetic and Hygienic Notes.

### The Cooking of Vegetables.

ALL vegetables should be cooked, says Dr. Cornet in *L'Actualité médicale*. This a fundamental rule which applies to all dishes designed for digestive organs more or less weakened by disease. True, there are some exceptions; certain salads, like lettuce or *Romaine*, agree occasionally with people suffering from a mild form of dyspepsia. In such circumstances one must be sure, however, that the dressing used, and especially the vinegar, oil, and pepper, does not, as, is generally the case, prove harmful.

Vegetables are cooked in two ways: by boiling or by frying.

When boiled, that is, placed in water, milk or bouillon and exposed to the fire, vegetables have these advantages: (1) They are antiseptic--that is to say, free from most of the germs likely to be dangerous; (2) they are tender, and therefore more readily acted upon by the digestive juices, while the mechanical work of the stomach is lessened; (3) they are devoid of certain acrid and bitter principles that might prove disagreeable or noxious. Those vegetables which are simply boiled and crushed (*purées*), and to which a little salt has been added, are the most digestible. But to render vegetables palatable, and to prevent their cloying the appetite, their taste needs to be improved either by the addition of butter or other savory substances, or by one of the numerous sauces. The selection of these sauces requires no little attention in cases of sickness, for those with feculent, acid, greasy, or spiced ingredients are often badly borne by the digestive organs.

In the process of frying raw vegetables are brought in contact with some kind of fat and then exposed to heat. Pure butter and olive oil are the only fats that should be used in frying vegetables for the sick. The temperature reached in frying is higher than that required for boiling, whence it comes that the outer zone of fried vegetables is more thoroughly cooked and often somewhat carbonized. The inner portion is always less cooked, especially when the vegetable is of considerable size. As in the case of broiled meat, the fat forms a sort of superficial envelope which prevents a sufficiently high temperature from reaching the interior, unless the frying process be greatly prolonged, when there is risk of burning the outer layer.

Fried vegetables are more agreeable to the taste, but less digestible than boiled vegetables.

### The Chicory Industry.

"THERE are more people," says *Wilkinson's Digest*, "who use tea and coffee and who should leave them alone than is generally thought. It requires many years for some of these highly nervous organisations to find what renders them often completely unstrung from breakfast time till late in the forenoon each day. It is the effect of the alkaloid of these drugs that does this, just as much as as the lying awake at night with sleep impossible until the wee hours of the morning.

"Some people cannot partake of either of these alkaloids, even at midday and after a hearty meal, without ill effects.

"This is one of the reasons why the chicory root has commercially become of some prominence. Its chief use has been to adulterate coffee. Some think it improves its flavour. Of late years it has been used more particularly to give body to the hot drinks composed of about two-thirds browned cereals and one-third roasted chicory, which are consumed as substitutes for coffee by people who require something of this nature to take the place of coffee and tea.

"Some years ago about thirty thousand dollars was invested in a factory at O'Neil, Neb., to take care of the chicory raised in that locality. The plant was originally brought from England and there installed. This factory was finally bought out by some Englishmen and removed to Omaha, where for a long time it was practically the only chicory roasting factory in the country. There are in the United States two other concerns. The industry has not proven very lucrative in recent years on account of the low market price of coffee, and their main use is to supply the many cereal proprietary products used as substitutes for coffee.

"The chicory root, when dried and split into the small cubes ready for roasting, is white and very hard, and resembles vegetable ivory. This dried root is roasted and ground and is then ready for the market. It is not a stimulant as is coffee and tea but a tonic in its physiological action. It contains no tannic acid, which, in a hygienic sense, is very important. The National Dispensary says 'that it increases the appetite, promotes digestion and stimulates the liver.' In this it resembles the far-famed dandelion or the officinal root of *taraxacum*."

## Gold Storage Notes.

### Very Cool Ice from Belfast.

THE Belfast Pure Ice and Cold Storage Company has been formed to acquire a business of the same name, established in 1892, together with the land, buildings, machinery, plant, horses, carts, and stock in trade generally. It is capitalised at £40,000, equally divided into ordinary shares and 6 per cent. preference shares. Of these, the vendor will take 3,000 preference shares and 3,400 ordinary shares, in part payment of the purchase money. The shares are now offered to the public at par, and the request of the promoters that the public will subscribe for them is several degrees cooler than the ice which the company makes.

The business, as we have already said, was established in 1892, and yet it is not until the end of 1897 that we find the auditor able to report the

small profit of £1,024. Whether the business up to that time had been carried on at a loss or not we have no means of knowing, but on the statements in the prospectus it looks as if it had been. The £1,024 which formed the profit for 1897, had increased to £1,398 in 1898 and to £1,691 in 1899.

This concern the vendor proposes to sell to the present company for £39,400, of which no less than £33,000 is to be cash. The stipulation for the payment of so large a sum in cash is pretty good evidence that the vendor has no faith whatever in the future of the enterprise. It is, in fact, admitted that the vendor sells at a profit, and, having regard to the fact that the returns of the business for the last completed year were only £1,691, we should imagine that if he originally bought the concern at anything like a reasonable price, his profit on this deal must be something like £25,000.



We shall have said enough, we imagine, to deter any but the most speculatively-minded investors from putting their money into such an enterprise as this. The list given in the prospectus of the alleged similar investments whose shares are now selling at high prices means simply nothing, for a few prosperous concerns can always be found in any branch of trade. The fact that they are prosperous no more proves that the Belfast Pure Ice Company will pay large dividends, than would the exhibition of ten men each 6ft. 6in. in height demonstrate that every member of the human race would in future reach that altitude. We have, as we have shown over and over again, the greatest desire to see Irish enterprise fostered and developed, but concerns like the Belfast Pure Ice and Cold Storage Company, Limited, can only result in disappointment to those who put their money into them. One of their effects will be the creation of a disinclination on their part to place further money on the other side of the St. George's Channel. Thus promising Irish enterprises suffers from the unpromising.—*Financial News*.

\* \* \* \*

#### Cold Storage for Fruit.

THE experiments conducted by the Kent County Council in 1898 on the cold storage of fruit have been repeated with larger quantities, in order to ascertain with exactitude to what extent cold storage could be made of real commercial value, but difficulty was experienced in obtaining supplies sufficiently large for the experiment. It is one thing for a grower to send for trial a small quantity of fruit which he does not miss, but quite another to send

a larger bulk which represents a real monetary value; many fruit growers were willing to send a basket or two, but were inclined to hold aloof when it came to a question of twenty or thirty. In this connection it is observed that in no quarter has so little interest been evinced in the cold storage experiments as in the home districts. Colonists shipping agents, and representatives of foreign Governments have been interested, and nine-tenths of the inquiries which have been received have come from what may be termed outside sources. The consignments which were received in 1899 consisted of black currants and plums. With regard to the former, the fruit kept for some time, and demonstrated on a large scale what was proved in the previous year on a small scale, that the fruit will keep for some time in good condition while waiting for a favourable market. Some misunderstanding arose about sending it to market, which prevented the result of the experiment being stated financially. In the case of the plums the results were very successful. One grower stated that he had seen his consignment of plums (consisting of 40 halves of Cox's Emperor) at the market after being in the cold store three or four weeks, and found them in good condition, and realising double the price they were worth when put into the cold chamber. Another grower sent a consignment of Victorias, the price of which when stored was 4s. per half, but they realised 9s. per half when put on the market. In conclusion, the County Superintendent of Horticulture observes that out of three consignments one was a success as regards the effects of storing, and the other two were successful both as regards storing and marketing.

## Official Reports and Notes.

#### Bread by Weight.—Curious Legal Anomaly.

A NOTICE which the public and traders alike would do well to bear in mind has just been issued by the Weights and Measures Department of the City of Manchester regarding the sale of bread by weight. It is as follows:—"The Weights and Measures Committee of the City desire to call public attention to the fact that a number of shopkeepers have recently been summoned before the City magistrates and fined for infringing the Bread Act by neglecting to sell bread by weight. Many complaints have been received respecting the neglect of shopkeepers to weigh their bread, and all persons purchasing bread are requested to see that the bread they buy is sold to them by weight."—A separate notice has also been issued to shopkeepers warning them that prosecutions will follow infringements of the law.

We understand from Mr. J. Webb Robinson, the Chief Inspector of the Weights and Measures Department, that this action has been necessitated by the numerous complaints which have been received. The notice applies only to household loaf bread. It does not apply to fancy breads and rolls. The complaints have mostly been made against grocers and confectioners; bakers generally conformed to the law. In some cases bread which had not been weighed had been found to be seriously deficient, reputed 2-lb. loaves weighing 1½-lbs., or even less. Mr. Robinson explains that the public can insist upon all bread sold to them being weighed in their presence; but generally speaking the public are very indifferent. All the Weights and Measures Department could do was to see that the scales and weights were properly adjusted and carry on the work of inspection. All sellers of bread have to be provided with weights and scales in their shops and in delivery carts for use if the public wished. This is the protection of which the public can always avail themselves.

It is a very curious fact that, although the Bread Act provides that all bread shall be sold by weight, there is no

law making it a penal offence to sell short weight, unless the weighing has been fraudulent. This applies also to butter, sugar, and indeed all articles in ordinary domestic use, excepting coal. Such prosecutions as have taken place of selling short weight have been under the Merchandise Marks Act, and have only concerned goods sold in packages marked with the weight outside. It is impossible to prosecute for giving short weight under either the Bread Act or the Weights and Measures Act unless it can be proved that there has been fraudulent weighing. The consequence of this is that the public are left to protect themselves, and the door is open to fraud by unscrupulous traders. It so happens that Mr. Bousfield, M.P., has introduced a Bill in Parliament to amend the Weights and Measures Act, which has been read the first time. An effort is to be made to insert a clause in this Bill to make it illegal to sell short weight, and to deal with the much-vexed question of gross and net weight.

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#### Somerset County Council and Food and Drugs.

THE Analyst reported that he had examined 200 samples of food and drugs, and found only seven adulterated, but in no way prejudicial to health.

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#### Leeds and Adulteration.

THE Leeds City Analyst (Mr. Thomas Fairley), in his quarterly report to the Leeds Corporation Sanitary Committee, states that he has examined 121 samples submitted by the Food and Drugs Inspector. Of 106 samples of milk, three were found to be watered, one deprived in part of its fat, three both watered and deprived of fat, and 32 poor or of low quality. Of 12 samples of butter, five were adulterated with fat other than butter fat. The total percentage of genuine samples is almost the same as during the corresponding period last year.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**ARSENIC IN EFFERVESCENT SODIUM PHOSPHATE.**—At the Marylebone Police Court, on July 6th, before Mr. Plowden, Mr. Howse, pharmaceutical chemist, 5, Bathurst Street, Hyde Park, appeared, in answer to a summons issued at the instance of the Vestry of Paddington, under the Food and Drugs Act of 1875, for selling an article—namely, effervescent phosphate of soda—not of the nature, substance, and quality demanded by the purchaser, by reason of containing one-eighth of one per cent. of oxide of arsenic, equal to  $8\frac{3}{4}$  grains of white arsenic per lb.

Mr. R. Cunningham Glen, barrister, appeared for the Vestry; Mr. Beck (Messrs. Neve and Beck) for the defendant.

Mr. Glen, in opening the case, said that, according to the British Pharmacopœia of 1898, effervescent phosphate of soda should contain no arsenic, the constituents of the drug being given as follows:—

Sodium phosphate in crystals	...	...	50 oz.
Sodium bicarbonate in powder	...	...	50 oz.
Tartaric acid in powder	...	...	27 oz.
Citric acid in powder	...	...	18 oz.

In the course of the manufacture of sodium phosphate sulphuric acid was used, and care had to be taken that sulphuric acid should be perfectly pure, as if impure it would contain more or less considerable quantity of arsenic as an impurity. No doubt in the article under review the arsenic complained of had got in in the process of manufacture, but that made the matter none the less serious—that it was a very serious thing would be seen from the extent to which the samples taken had been adulterated, arsenic being rather a dangerous poison. In the present case the drug was intended to be used as a mild aperient, and the arsenic was therefore likely to have a more serious effect. The prosecution realised the fact that the defendants were obliged to obtain these drugs from wholesale manufacturers, upon whom they had largely to rely for the purity of the articles which they supplied, and they did not suggest anything on the part of the defendant personally. Under the Act there could be no defence of warranty taking the responsibility off the shoulders of the person who actually retailed the drug and throwing it upon the wholesale supplier of the article, as in all these cases it was intended that people who dealt in articles which were of a dangerous character should take extra care if there was any onus which they wished to throw upon the shoulders of other people to obtain the necessary guarantees under the Act. The drug in question being taken as a mild aperient was liable to be taken in a very casual manner, and was, therefore, likely to be more injurious because of the careless manner in which the doses would be measured. The powder was taken out in spoonful without being carefully measured, and any possible danger, therefore, might be easily aggravated.

Mr. Thomas Parker, inspector under the Paddington Vestry, gave evidence as to visiting the shop of Mr. Howse on June 6th and purchasing 4 ozs. of effervescent phosphate of soda. He told Mr. Howse what he wanted it for, divided it, and left a portion with him. One part he gave to the analyst, the other he retained.

In answer to Mr. Beck, witness said he had selected this particular drug for a special reason. He had been engaged in enforcing the Food and Drugs Act, but had never before taken a sample of effervescent phosphate of soda, nor had he heard of one being taken. The sample was from a fresh bottle opened by Mr. Howse.

Dr. Reginald Dudfield, Medical Officer of Health for Paddington, having spoken to the fact that arsenic was used in medicine in minute doses, said that in the manufacture of sulphuric acid, which was used in one of the stages of the manufacture of effervescent phosphate of soda, arsenic might creep in, because the sulphuric acid was made by the burning of pyrites which contained arsenic, and in that way the sulphuric acid might be contaminated with arsenic if not properly purified; but the sulphuric acid used for the manufacture of drugs should contain no arsenic. Sodium phosphate, the main ingredient, ought to be free from it. The Pharmacopœia said, with regard to sodium phosphate, "it should yield no characteristic reaction with the tests for potassium, ammonium, or carbonates, and only the slightest reactions with the tests for sulphates or for chlorides." There should be no reaction with the arsenic test. The dose of the phosphate was directed to be from 60 to 120 grains for repeated use, and from  $\frac{1}{4}$  oz. to  $\frac{1}{2}$  oz. for single dose. Its medicinal effect was that of a very mild purgative. Arsenic had a peculiar effect on the mucous membranes of the lining of the intestines, and he would say that when the intestines were disturbed by aperients the arsenic would have a more vigorous effect. As to whether a proportion of  $8\frac{3}{4}$  grains of white arsenic per lb. was likely to be injurious, the medicinal dose of white arsenic was from  $\frac{1}{60}$  to  $\frac{1}{15}$  of a grain, and the usual rule in giving arsenic was six days and then one day off. That was where it was given under instructions and very careful observation. Comparing that dose with the quantities that would be given in the phosphate, according to the present analysis— $8\cdot75$  grains of arsenic per pound—a 60-grain dose of phosphate would give  $0\cdot07$  of a grain of white arsenic and 120 grains would give  $0\cdot15$  of a grain of arsenic, which would be equivalent to about 10 minimum doses as directed by the Pharmacopœia. If the patient took  $\frac{1}{2}$  oz. of the phosphate of soda he would get rather more than  $\frac{1}{4}$  grain of arsenic, the maximum dose mentioned in the Pharmacopœia being  $\frac{1}{15}$  grain= $0\cdot066$ . He had no experience of the poisonous effects of arsenic.

In answer to Mr. Beck,

Witness said the sample in question was taken by his directions because it had come to his knowledge that phosphate of soda did contain arsenic. That knowledge was quite recent, and obtained before he directed the Inspector to take a sample.

Mr. Beck: Did that arise in consequence of a circular which was issued by a very well-known firm?

Witness said it was entirely independent of that. He had not heard of the issue of any circular when he directed the samples to be taken. The information had been communicated to him privately. By direction of his committee he had since issued a warning to the trade, dated June 21st, calling the attention of dispensing chemists to the fact of the recent discovery that a large quantity of phosphate of soda adulterated with arsenic had been put upon the market, and recommending that all recent stocks should be examined with a view to its detection. It was thought to be such an important matter that attention should be called to it without waiting for this summons to be heard. Asked as to whether he was familiar with the British Pharmacopœia, witness said he had done with it for many years, and, like his interrogator, had had to get a new one to get this case up. He accepted the suggestion that the Pharmacopœia was the "guide, philosopher, and friend" of doctors the world over—the British world—and it was published with the authority of the British Medical Council. According to the preface, its object was "to afford to members of the medical profession and those engaged in the preparation of medicines throughout the British Empire one uniform standard and guide, whereby



the nature and composition of substances to be used in medicine may be ascertained and determined." In the prescription for the preparation of sodium phosphates no warning was given with regard to the presence of arsenic, but in the prescription for sulphuric acid manufacturers were warned to test for arsenic. That was also the case with phosphorous. As to whether there was any other instance but that of sodium phosphate where the warning, with regard to a parent substance, as to the presence of arsenic was not repeated in the case of the product, he was not sufficiently familiar with the B.P. to be able to answer the question.

Mr. Beck observed that he could give a number of illustrations showing that wherever sulphuric acid was used the warning as to its containing arsenic given in the case of the parent was repeated in the case of the product.

Witness, in further cross-examination, said he did not think that the retail chemist, if he had applied all the tests given in the Pharmacopœia, could have discovered the presence of arsenic in this phosphate of soda, but as to the suggestion that the Pharmacopœia was to blame for what had taken place in this case, he did not know that he could agree to that for the reason that the amount of arsenic present in this instance was very much greater than in commercial sulphuric acid, which was admittedly impure. It was not suggested that the presence of the arsenic in this case had arisen otherwise than in the course of manufacture. The bone ash used in the manufacture would not contain arsenic. The arsenic contained in the sodium phosphate under investigation was beyond the medical dose and he should say within the dangerous doses, and he would not give it to anybody under his care. The least recorded fatal dose of arsenic was  $\frac{3}{4}$  grain.

Mr. Alfred Stokes, Public Analyst for Paddington, said he had analysed samples of the sodium phosphate in the present case. Every sample that contained arsenic contained more than there ought to be. There ought to be none at all in this salt. In making the analysis he used the ordinary tests.

Mr. Plowden asked what would have happened to Mr. Parker if he had drunk all that he had bought?

Witness said he would have been violently sick.

In answer to Mr. Beck,

Witness said he thought the quantity of arsenic present was too small for him to determine whether it was present in the form of white arsenic. It was probably in the form of sodium arsenate, and its presence would have arisen in the process of manufacture. In testing he used Marsh's test, and, finding arsenic present, he proceeded to precipitate by means of sulphuretted hydrogen at a temperature of 150 deg. to 170 deg. F., finally obtaining the heavy yellow precipitate, which was sulphide of arsenic, and calculating it into the form of white arsenic. He had never before analysed phosphate of soda for arsenic, though he used it in his own laboratory, there was no occasion to, and there was no test in the Pharmacopœia which would have discovered the presence of arsenic. The Pharmacopœia contained no warning, or anything that was unusual, and the presence of arsenic in sodium phosphate was entirely unusual. Of thirteen samples he had examined five contained arsenic, the quantity varying from  $2\frac{1}{2}$  per cent. down to a mere trace.

Mr. Plowden asked witness if had any theory as to how the arsenic came to be there.

Witness said it was rumoured, but it was only a trade rumour, that it was due to a mixture of arsenate of soda with phosphate of soda—a mere accidental mixture, not done intentionally at all.

Mr. Beck, in addressing the Court for the defendant, submitted that there was no case under the Act, though it was a perfectly proper case to have been brought forward, because it was the very best possible way of giving the trade warning that it was certainly desirable that such substance should be tested. But it was not desirable to

exaggerate a case of this kind, and it was not suggested that anybody had been injured by this stuff, which had been in use a great many years. Mr. Howse was, of course, not the manufacturer of this article, but had bought it from a very well-known firm. His attention was first drawn in this matter by a circular issued by another firm, who advertised the sodium phosphate very largely as a proprietary preparation. That firm having, curiously enough, discovered that arsenic was contained in that preparation, sent out a warning circular to all their customers begging them to send the stuff back. Immediately afterwards it also came to the knowledge of Messrs. Davy, Hill, Son and Yates, who supplied Mr. Howse, that their stuff contained arsenic, and they sent out a similar warning to the whole of their customers. In the meantime, samples had been taken by the Paddington Inspector, but from the earliest history of this substance down to the present time, until this discovery was made, it had never been suggested that it contained, or was liable to contain, arsenic in any form at all. The chemist was, of course, liable for everything he sold, but could not, of course, test everything, and in the present case no test was provided for by the Pharmacopœia. There was no doubt at all that the retailer, the wholesaler, and the manufacturer had alike been deceived by this omission, which was probably accidental, from the Pharmacopœia. On behalf of the defendant, twenty-one samples, dating from 1896 to the present time, and purchased from retailers in different parts of the country, had been analysed, and all them contained some arsenic, and that fact would suggest that in this case there had been an admixture in the course of manufacture, and that consequently it was not, in the ordinary sense of the word, an adulteration. The vendor, of course, was to be judged by the standard of the article demanded from him, but if it was not known to anyone at that time that phosphate of soda might contain an impurity of this description, then surely the purchaser was not entitled to expect an article free from arsenic, and the vendor was not bound to supply it. Supposing it had been discovered that instead of arsenic some hitherto unknown mineral poison was formed in the process of manufacture, could a person be held responsible for selling as adulterated an article containing that hitherto unknown poison?

Mr. Plowden asked whether if the amount of arsenic in this particular sample had been sufficient to produce death the chemist would have been liable for manslaughter.

Mr. Beck said he should submit not. The question was what was to be the standard? The article answered to what had hitherto been the standard of the British Pharmacopœia, and it would be hard on Mr. Howse if he should be penalised for having sold an article containing a poison which no one had hitherto suspected to exist in that article. The fault was in the book and in the practice and in the standard, and not in the retailers. Mr. Beck also called attention to the form of the certificate given by Mr. Stokes, contending that it was not in the form prescribed by the Act, inasmuch as there was nothing in the certificate to show that the sample did not properly contain arsenic. As the certificate in the form prescribed by the Act was a condition precedent to prosecution, if the certificate was bad in form, the prosecution must fall to the ground. Upon this point he relied in the case of *Fortune v. Henson* [65, *L.J.*, Magistrates' cases, 71], in which it was contended that the justices had a right to know on what percentage the calculation was based, and Mr. Justice Kennedy held, with regard to that, that the analysis should be clear, and afford material on which the justices and the accused also might know how the results had been arrived at.

Mr. Howse, the defendant, stated that he purchased the article ultimately sold to the inspector from Messrs. Davy, Hill, Son, and Yates. In the month of May he had his attention drawn to the possibility of arsenic being present in sodium phosphate in its effervescing or other form. When he received the circular from another firm asking him to send back what he had received from them



on account of the presence of arsenic in it, he did so. Having subsequently received a satisfactory assurance from the representative of Messrs. Davy, Hill, Son, and Yates as to effervescing sodium phosphate sold by them, he continued to sell it until he received from them the warning notice which had been referred to. He had been in business for twenty-four or twenty-five years, and up to that time he had no idea that phosphate of soda might contain arsenic. He would never have looked for arsenic in a sample of phosphate of soda, for the simple reason that the Pharmacopœia did not mention phosphate as being a thing likely to contain arsenic. Mr. Charles Alexander Hill, consulting chemist and partner in the firm of Messrs. Davy, Hill, Son, and Yates, said his firm bought the original phosphate of soda from the manufacturers in a powdered form, and removed the impurities by recrystallisation. The impurities removed were of mineral character, such as chlorides and sulphides, and these impurities were mentioned in the Pharmacopœia. No steps had ever been taken to remove arsenic, as there had never been any suggestion as to its presence. If arsenic had been known to be there, it would have been quite possible for the manufacturers to have removed it by an easy and inexpensive method. The arsenic ultimately sold to Mr. Howse was bought of a druggist's broker, Mr. Crook, in 1896, and the full market price was paid for it. The prescribed tests and recrystallisation were applied. In respect of such matters they were obliged to take the Pharmacopœia as their guide. White arsenic could have been mixed with the phosphate of soda. Samples had been taken from the original tub of phosphate of soda supplied by Crook. As soon as his firm were apprised of the presence of the arsenic they immediately telegraphed and wrote to all chemists to whom they had sold phosphate, and prepared and issued a circular to every chemist on their books.

Mr. Glyn-Jones, chemist and druggist, a member of the Council of the Pharmaceutical Society and Secretary of the Chemists' Defence Association, said that in the last-named capacity he received a sample from Mr. Howse, which he handed to Mr. Moore to analyse. In addition to that he had obtained twelve other samples, nine of them being from retail chemists scattered all over London, and further samples direct from the wholesale house of Messrs. Davy, Hill, Son, and Yates. These he divided, and sent for analysis to Mr. Moore and Mr. Otto Hehner. He had himself been fifteen years in trade, and had never heard that it was necessary to test phosphate of soda for arsenic. In his own experience there was not a large trade in this article, and he had himself never sold a bottle.

In cross-examination by Mr. Glen, witness said that if pure sulphuric acid had been used in manufacture the presumption was that there would be no arsenic, and there would, therefore, be no need for testing, and that might account for no tests having hitherto been made, the assumption being that pure sulphuric acid was always to be used. The British Pharmacopœia would, of course, have given a test if it had been thought likely that arsenic was ever to be found in the manufactured article.

Mr. Otto Hehner, public analyst, said he had examined the sample of phosphate of soda purchased by Mr. Parker and the twelve samples left by Mr. Glyn-Jones, and also a sample purchased from one of the best and most reliable manufacturers of chemicals; also samples of sodium phosphate which, he understood, had been manufactured some time ago, and also a sample from the cask of sodium phosphate which, he was told, contained the remnant of the sodium phosphate used in the manufacture of the article in this case was concerned with. In all he had examined about twenty-one samples, not one of which was quite free from arsenic. The sample left by Mr. Parker contained 14·07 grains of arsenic in the form of sodium arsenate. He thought Mr. Stokes' estimate of the quantity of arsenic present was erroneous, his own calculation amounting to about 14 grains to the pound, but, as public analyst, he would in no way sanction the use of sodium phosphate containing such an amount. He had never

heard of anybody testing for arsenic in sodium phosphate, and the British Pharmacopœia had entirely omitted to give a test, although it had given a test for almost every other conceivable substance. The introduction of the arsenic, no doubt, came about in the process of manufacture. Phosphate of soda was an article which was never prepared by chemists and druggists, whether wholesale or retail, but always by chemical manufacturers, and it was not a thing that a chemist and druggist could make with profit to himself. It was bought as a common ordinary chemical in the market. It was made with commercial sulphuric acid and bone ash. Commercial sulphuric acid was made from pyrites, and pyrites contained arsenic which remained in the ultimate product. The amount of arsenic in the pyrites was sufficient to account for the quantity found in the sodium phosphate; it had not been intentionally added.

Mr. Beck: Now that attention has been called to the matter one may safely assume that this is a sort of thing that will not occur again?

Witness: Well, it should not.

In answer to further questions, witness said that in every other case the warning to test for arsenic given in the case of the parent article was repeated in the case of the product. A test was given even where pure substances had been used. Starting with phosphorus, which was known as a commercial article, the warning was given in the Pharmacopœia. From that was made phosphoric acid, and in that case the warning was repeated. From phosphoric acid they made ammonium phosphate, and the Pharmacopœia said, test it for arsenic. From ammonium phosphate they made ferric phosphate, and that once more was directed to be tested; in the case of sodium phosphate the test had been forgotten.

Mr. C. W. Moore, Public Analyst, of Exeter, said he received from Mr. Glyn-Jones the sample Mr. Glyn-Jones had received from Mr. Howse. He subsequently obtained from Mr. Glyn-Jones twelve samples of sodium phosphate, and also seven other samples; in all, he had examined some twenty samples. Some samples contained only a small quantity of arsenic, but all contained more or less. From the sample received from Mr. Howse, he obtained very little more than half the quantity of arsenic that was obtained by Mr. Stokes. He generally confirmed Mr. Hehner's conclusions, and thought that the sulphuric acid must have been the source of the arsenic, as arsenic appeared also in samples going back over dates which would not be covered by any single accident.

The hearing of a similar summons against Messrs. Lewis and Burrows' Drug Stores, Limited, for a similar offence under the Act was then proceeded with, the quantity of arsenic in this case being specified as "five hundreds of  $1\frac{1}{2}$  per cent. of white arsenic."

Mr. Cunningham Glen appeared for the Paddington Vestry; Mr. Horace Avory for the defendants; Mr. Beck for the firm, Messrs. Davy, Hill, Son, and Yates, who supplied the phosphate of soda to the defendants under a warranty.

Mr. Avory said that, after the evidence that had been given in the previous case, he did not propose to contest the matter, but he had another defence altogether—namely, a warranty given in accordance with the 25th Section of the Act.

Mr. Cunningham Glen, addressing himself to the question of warranty, said he had reasons for saying that was not within the meaning of the Act. It was given as long ago as December 24th, 1898, and was, therefore, a very stale warranty, but it might possibly apply. The terms of the warranty were as follows:—"We hereby guarantee all Pharmacopœial preparations will stand the required tests of the 1898 edition British Pharmacopœia." The Act required that the warranty should be a specific warranty with regard to the sale called in question, but this, so far from being a specific warranty, was a general



warranty relating to no particular sale at all. As required by the Act, an invoice was sent with these particular goods dated June 1st, 1899, which disconnected the one from the other. The authorities on which he relied as to that point were *Harris v. May* (12, Q.B.), and *Laidlaw v. Wilson* (1894, 1, Q.B.)

Evidence as to the purchase and analysis of the sodium phosphate having been given respectively by Mr. Parker and Mr. Stokes,

Mr. Avory said he relied upon what had been said in the other case as to the main point, but maintained that the warranty in this case was a complete answer under Section 25. The defendants had reason to believe when they sold the article that it was in the condition specified in the general warranty under which it had been purchased, and there were several cases in which it had been laid down that a general warranty might be given. The warranty of December 24th was obviously of a general character applying to future deliveries. If there had been anything on the face of it to show that the warranty was limited to a delivery on that day defendants, of course, would be out of court.

Mr. Plowden observed that the words, "will stand" clearly had reference to the future.

Mr. Avory said he could prove, if necessary, there was no supply on the particular day on which the warranty was given. It was given to cover all future deliveries. If it was held by the magistrate that the British Pharmacopœia required that pure sulphuric acid should be used in the manufacture of this effervescent soda, the warranty would cover that use of pure sulphuric acid.

Mr. Beck said that if it was possible for his firm to admit that their intention had been to give a binding warranty they were prepared to do so, but, as a matter of law, he was afraid they had not.

Mr. Ernest William Gough, general manager of Messrs. Lewis and Burrows, then gave evidence that the effervescent phosphate of soda sold to Mr. Parker was purchased from Messrs. Davy, Hill, Son, and Yates under the warranty of December, 1898.

Mr. Plowden announced that he would give his decision in both cases on Thursday, July 12th.

On Thursday, July 12th, Mr. Plowden, in giving judgment in the above cases heard on Friday, July 6th, said there was no real dispute as to facts beyond a slight and immaterial difference of opinion as to the quantity of arsenic found, but it was strongly contended on behalf of the defendants that they were not liable to any penalty, on the broad ground that they did not know of, and had no reason to suspect, the presence of arsenic in the article sold. Fortunately, it might be said, there was not a great sale for the preparation in question, though it had been in use in this country since 1874; but whether the sale was extensive or not, it was obvious that during twenty-five years widespread injury to health might have been occasioned by the use of a medicine more or less mixed with arsenic, especially to those who relied on it habitually. The great point made by the defendants to explain their ignorance was that owing to some accidental omission no warning—no danger signal, as it was called—was to be found in the British Pharmacopœia to the effect that arsenic might be looked for among the ingredients of effervescent phosphate of soda. It was pointed out that this omission was entirely contrary to the scheme of the work, and was calculated to throw practitioners off their guard. This view found emphatic expression in the evidence of Mr. Otto Hehner, to whom the presence of arsenic in phosphate of soda had come as a revelation. Mr. Hehner had since analysed twenty-one samples of the phosphate, in every one of which arsenic was more or less present. Until then, with all his knowledge and experience of the drug, he had never suspected its existence, relying entirely on the Pharmacopœia, which gave warning in

every possible and probable instance where the presence of arsenic might be suspected. He had no doubt that the poison was introduced in the process of manufacture by the use of impure sulphuric acid. That view, however, was not concurred in by Mr. Stokes, who thought that the presence of arsenic in such a quantity as  $8\frac{3}{4}$  grains per lb. must be due to carelessness. The history of the particular consignment to the defendants was carefully traced with a view to showing that from first to last the presence of arsenic was never suspected, the whole case for the defendants, in short, being that the general ignorance on the subject was so natural and so profound that no blame properly attached to anybody, least of all to the unhappy druggists at the end of the chain, who sold it as they received it, and were the least likely of anybody to suspect its purity. On the other hand, Dr. Dudfield, the Medical Officer of Health, stated clearly that arsenic was not a natural ingredient of effervescent phosphate of soda, and though it was true that the Pharmacopœia contained no warning as to this particular compound, there was a distinct reference to sulphuric acid as a material used in the preparation of phosphate of soda, and this of itself, if followed up, would have led to the discovery of the poison, which had crept in by reason of the impure state of the acid used. On this evidence it seemed clear that a mixture was sold to the purchaser different from what was demanded, and highly to his prejudice, containing, in fact, a dangerous poison; nor did it seem to him to matter, from the purchaser's point of view, how the poison was introduced. The only question to be determined was whether the plea of ignorance which had been set up was sufficient protection to the vendors, and he was of opinion that such a defence, whatever moral value it might have, was one which the law could not recognise. If that plea once obtained legal sanction it might easily be attended with most serious consequences. If there was any question of malice in the case, ignorance might no doubt be an effective answer, but short of that the only value it could have was in mitigation of punishment. He was, therefore, of opinion that both defendants must be held responsible. As to the further defence of Messrs. Lewis and Burrows, that the guarantee they received from the wholesale merchants was a sufficient warranty under the Statute, he was of opinion that the warranty was clearly not sufficiently specific as to the thing sold by the defendants on June 6th, 1900, and therefore afforded no defence. The defendants in each case would have to pay a fine of £10 and five guineas costs. Mr. Beck asked Mr. Plowden if he had overlooked the point with regard to the form of the certificate. Mr. Plowden said he had considered that, and ought to have alluded to it. He was against Mr. Beck upon that entirely.

**MILK PROSECUTIONS.**—At West Ham, James Spencer, a milk dealer, of 60, Royal Road, Custom House, was summoned for refusing to sell a pint of milk to an inspector under the Food and Drugs Act, for the purpose of analysis. On June 15th, Inspector Warwick, with an assistant, saw the defendant serving milk in Devonshire Road, Custom House. He had two cans with him, and when asked for a point of milk he proceeded to serve it from the second can. He was told the Inspector wanted it from the can he had been serving customers from, but he protested that had not got enough milk to supply a second pint. The officer said he was an inspector, and offered to buy other milk to replace the second pint he wanted, but defendant refused to supply it, and ultimately threw away the pint he had put into the jug. [Defendant, who now said that he had not enough milk, and did not know that Warwick was an Inspector, was fined £5 and 12s. costs.

At the Cambridgeshire Petty Sessions, Charles Endersby, milkseller, of 52, Victoria Road, Chesterton, was summoned for selling milk from which 25 per cent. of its natural cream had been abstracted, without notifying the fact, on May 28th. Superintendent Webb, Inspector for the County under the Food and Drugs Act, said on the



28th of May he was on the Victoria Road, Chesterton, and saw a man named William Bruce delivering milk at houses on the Victoria Park Estate. Witness asked for a pint of milk and the man gave him one from a can marked "new milk, C. Endersby." Witness paid 2d. for it. The man said he was in the employ of the defendant. Witness told him he had purchased it for analysis, and made Bruce divide it into three equal parts in his presence. On June 5th witness received a certificate from the Public Analyst, Mr. J. West Knights, showing that 25 per cent. of the natural cream had been abstracted from the milk. Witness afterwards saw defendant, who said "I did not abstract the cream. On that particular morning I milked a cow which I know to give poor milk, first, and, my man coming late, I sent him out with that milk in one can. I have never done it before, as I always mix the milk with that of the other cows." He afterwards showed witness the cow, which seemed to be no different from the other seventeen defendant had. The defendant: I said the cow was a good milker, but gave little cream. The can was nearly empty when he took the milk, and that makes a lot of difference. If you keep pouring milk away it always gets less cream towards the end. The Chairman said it was a very serious case and defendant would be fined £5.

**THE COMPOSITION OF MILK.**—At the Clerkenwell Police Court, on July 11th, Emerton and Emerton (trading as Emerton and Son), 85, Grove Road, Holloway, were summoned, before Mr. Paul Taylor, for delivering at the Islington Infirmary, St. John's Road, Upper Holloway, on 14th June (in pursuance of a contract with the Islington Guardians) milk from which 6 per cent. of the original fat had been abstracted, and which contained 4 per cent. of added water. Mr. Bramall appeared on behalf of the Islington Vestry, Mr. Symmons, barrister, represented Mr. F. A. Barrs, of Ashby-de-la-Zouch, who supplied the milk to the defendants, together with a warranty, and Mr. Ricketts defended Messrs. Emerton. Inspector Cowling, of the Islington Vestry, proved taking a sample of the milk, which was certified by the public analyst to be below standard. Cross-examined: He took samples from nine churns at the Islington Infirmary. Two of the churns only were marked with the name "F. A. Barrs." Only one sample was returned as below standard. Herbert Davey, son of the clerk to the Guardians, said Messrs. Emerton had supplied milk to the Islington Infirmary for a number of years. Their consignments had always been found to be satisfactory. Mr. Ricketts said milk varied so much in composition that the deficiency for which the defendants were summoned was by far too narrow a margin for any analyst to take with anything like certainty. Mr. Paul Taylor: I have heard that magistrates have stated that five per cent. of added water is too narrow a margin to take. Mr. Ricketts: Milk varies in composition. Its fat is low as 1.50, and sometimes reaches 4.50. Mr. Symmons said the principal of the Government Laboratory analysed the milk from 243 cows, and the proportion of fat varied from 2.45 to as high as 5.97. Mr. Paul Taylor: How can reasonable man say with certainty that this milk has been tampered with? Dr. Teed, analyst to the Islington Vestry, said he found in the sample taken a 10 per cent. deficiency of fat, four per cent. of which was accounted for by the added water. In regard to the composition of milk, he took as his standard 8.5 and 3. Cross-examined: Six months ago the Somerset House authorities took 2.75 as their standard of cream. The standard had since been raised to 3. Assuming he had not made an allowance of 4 per cent. of added water, he should have in this case found that the deficiency of fat was 10 per cent. Further cross-examination elicited the fact that whereas the churn of milk complained of contained 2.68 of cream, the other churn marked "F. A. Barrs" contained 4.73 of cream. Mr. Ricketts: That merely shows that the milk was not properly mixed—that more of the "strippings" was contained in one can than in the other. Mr. Bramall: That's one of Mr. Ricketts's ingenious defences. F. A. Barrs, milk contractor, of Ashby-de-la-Zouch, said the milk he supplied to Messrs. Emerton came from his own cows.

He denied that any of the cream was abstracted. Mr. Paul Taylor, from papers handed to him, read that one churn marked "F. A. Barrs" contained the highest proportion of cream of the whole nine samples. He considered that the case had not been proved, and dismissed the summons.

John Poupart, market gardener and dairyman, of Rainham, appealed against a conviction by the Beacontree Bench for having, as it was alleged, taken from pure milk a large quantity of cream. In two cases he was respectively fined £2 and 11s. 6d. costs and £1 and 18s. 6d. costs. Mr. George Elliott was for the appellant; Mr. W. J. Grubbe was for the respondent justices. Mr. Elliott first raised the point whether the East Ham Urban Council, at whose instigation the original proceedings were taken, had really any right to proceed in such a matter. The proceedings were under the Act of 1899, which defined "local authorities" entrusted with the execution of the laws in regard to the sale of food and drugs as County Councils and Town Councils, and did not include Urban Councils. The Court retired to consider the point, and ultimately over-ruled it. The merits of the case were then gone into at great length. The certificate of Mr. T. A. Pooley, the county analyst, which was not disputed, showed that the milk contained 89.27 per cent. of water, and expressed the opinion that 25 per cent. of its original cream had been extracted by skimming or otherwise. Witness after witness was called to trace the milk from the cows to the railway station at which the samples were taken for analysis, and each and all deposed that the milk was all along precisely as it came from the cows. Mr. C. G. Moore, analyst for the City of Exeter, deposed that the analysis showed that no water had been added to the milk, for in that case the quantity of its other constituents would have been reduced. Stress was also laid by counsel for the appellant upon the eminently respectable character borne by Mr. Poupart, who had never before had a complaint against him. The Chairman, after the court had retired, said they had given every consideration to the case, and to the novel and curious point. The appeal, however, must be dismissed, with costs for the respondents. Mr. Elliott asked the Bench to state a case for the High Court as to the point about Urban Councils which he had raised. The Chairman replied that the Bench thought Mr. Elliott had confused the inability of Urban Councils to appoint analysts with their power to appoint inspectors to take samples. Mr. Elliott urged that he had not, and pressed the point. The Chairman: Well, we'll grant a case.

**CAMPHORATED OIL.**—At Tredegar, on July 3rd, Joseph Price, grocer, Beaufort, was fined £2 and £3 2s. costs, for selling a mixture purporting to be camphorated oil, but which was devoid of the necessary ingredients to make it comply with the provisions of the statute. Mr. T. G. Powell appeared for the defendant. The Bench said they recognised the importance of the absolute purity of this mixture, which was so extensively used for outward application by the lower classes.

**MUSTARD PROSECUTION.**—At the Kensington Petty Sessions, on July 17th, Davies and Evans, Limited, 193, Clarendon Road, Notting Hill, W., were summoned for selling mustard which contained 25 per cent. of starchy matter having the character of wheat-flour. Edward Fabian said he went to the defendants' premises and asked for half a pound of shilling mustard. No remark was made to him at the time of the purchase as to the nature of the article. The defendants were represented by Mr. James Stepney, who said that the firm's managers had printed rules as to the sale of mustard and such articles. In the present instance the manager on the day in question was so worried by the fact that his son was dying that he appeared to have mixed by mistake some condiment mustard from a tin with the loose mustard. The Inspector, in answer to the defendants' representative, said that he had taken samples from the shop on several previous occasions, but in each instance they were satisfactory. Mr. Bird (magistrate): No doubt this was a mistake. Fined 20s.



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## Food and Sanitation.

SATURDAY, AUGUST 4, 1900.

### Dietetic and Hygienic Notes.

#### Dangers of Headache Powders.

AN inquest was held at Clayton-le-Moors, Acerington, before Deputy Coroner Butcher, upon the body of Ellen Alston, an orphan, aged seven, who had lodged with her sisters at 13, Willow Street. It was stated that the child complained of a headache, and one of the sisters purchased a "headache powder," giving deceased half the contents of the packet in a tablespoonful of tea. The child was very ill during the night, and at six o'clock in the morning a sister gave her a teaspoonful of tincture of rhubarb, but the stomach immediately rejected it. A doctor was sent for, but the child was dead on his arrival. Dr. Clegg deposed that as the result of a *post mortem* examination he found that death was due to syncope. He found traces of commencing pneumonia, but not sufficient to account for the syncope.

Robert Mountain, chemist and druggist, of Ashcliff, Bacup, said he was the maker of the "headache powders" in question, a packet of which was sealed by the Coroner for the purpose of analysis. It bore the following label: "They are perfectly harmless and nearly tasteless. Grown-up people take one powder; children half a powder in a teaspoonful of milk. Asked as to the composition of the powder witness said it was a trade matter, but he would write it down for the coroner. The preparation was insoluble in water, so that if half a minute elapsed before it was taken the powder would be precipitated to the bottom of the spoon, and in all probability deceased would not get any of it. It was recommended to be taken in milk, because it was then more suspended. The Coroner: From your experience as a chemist, what is the effect of this preparation? Is it stimulative? Witness: There is no doubt that in large doses the effect is depressing for the heart. An adult could take twenty grains, and I have known half a drachm to be taken with safety by an adult. I have never had the slightest indication of any serious results following the taking of these powders, and I am certain the powder has not caused death in this case. The Coroner adjourned the inquiry, so that the powder might be analysed and the stomach and intestines of the deceased sent to the County Analyst for examination.

\* \* \* \*

#### Food Poisoning in Glasgow.

DR. A. K. CHALMERS, in a report submitted to the Corporation, says that his attention was directed to an outbreak of illness among the staff of a milk purveyor in Glasgow. On the morning of 15th June one of the workers was suddenly attacked by sickness, followed by abdominal pain, vomiting, and diarrhoea, and later in the day eight of his fellow-employees were similarly affected, the symptoms in each being similar, but varying in severity. All those were in the habit of taking their meals together at the premises of their employer, along with four others who remained well. The association here indicated suggested poisoning, and, other probable sources being excluded, inquiry was directed to the various articles of food which had formed the dietary of these persons during the day or two preceding the attacks. On the 13th and 14th it had consisted of eggs, porridge, milk, tea, bread, and veal, which latter was partly eaten recently cooked on the 13th, and cold on the 14th. The number attacked rendered idiosyncrasy to any particular combination of food material unlikely, and it is noteworthy that on either of the days, but particularly on the second, was there any suggestion of change afforded by the sense of smell that the veal might prove hurtful. Nevertheless, the symptoms of poisoning occurred, the earliest beginning after an interval of about 27 hours, and, although there is an entire absence of evidence implicating any of the articles of diet, the incident remains as an illustration of the subtle changes to which food is liable when the mean temperature of the air reaches the summer average. Especially should care be taken that all flesh meat is kept in cool, well-aired places, and protected from dust.



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# BIRD'S CUSTARD POWDER

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## Some of the Newer Artificial Albuminous Foods.

THANKS to the activity of the physiological chemist and the enterprise of the manufacturer, the past few years have brought us a number of useful food preparations having for their object the more complete utilization of the albumin of milk, fish, certain vegetables, and other kinds of albuminous raw material. They constitute, says *The Dietetic and Hygienic Gazette*, therefore, not only excellent dietetic remedies in disease, debility, and convalescence, but also compact, durable, and for the most part economical foods during travels on land and sea, military campaigns, etc. In cases of sickness, in which a careful regulation of the diet is of the greatest importance, it is often a matter of great difficulty to provide a readily digestible and absorbable nutriment. This is true especially of albuminous food. The peptones and albumoses, still much in vogue among physicians, are objectionable on account of their unpleasant and bitter taste, their irritating effects upon the gastro-intestinal tract, and their consequent tendency to cause diarrhoea and griping. As regards the albumoses which, by the way, form the major portion of the peptones on the market, it is important to know that, as Finkler has pointed out, they strongly resist peptonization.

To the artificial proteid foods already known to our readers, somatose, nutrose and eucasin—the first a meat product containing a large proportion of albumose, the second a caseinate of sodium, and the last a caseinate of ammonium—there have been added within recent years tropon, plasmon, santose, sanatozen, globon, and sosen. While all these foods contain, as will be seen, a very large percentage of utilizable albumin, the low cost of tropon and of plasmon makes these two the most important and the ideal food for the poorer classes.

Tropon, as it is now sold, is a mechanical mixture of animal and vegetable albumin, free from gluten and fat, and containing, when dry, about 99 per cent. of albumin. It occurs in the form of a yellowish powder, insoluble in water, and devoid of odour and taste. Owing to its insolubility, it is best taken mixed with vegetables or baked with flour into bread, cakes or biscuits. When given in liquids, like milk, soup, chocolate, etc., it should be well stirred to avoid the formation of lumps. According to Neumann it is fully capable of replacing the albumin of other foods and is cheaper than meat. A tablespoonful of tropon is reckoned as equivalent to about 25 grams of albumin—the amount of albumin represented by a quarter of a pound of the best beef, freed of its fat and tendinous tissue. Kunz's analyses have shown that it contains a very small amount of nuclein and a relatively high proportion of iron. Froehner and Hoppe have found that the amount of albumin in tropon which is utilized by the organism ranges as high as 91.6 per cent.

Plasmon, or Caseon, as it is sometimes called, is a finely granular powder of a light yellowish colour, without odour or taste. When placed in cold or tepid water it

swells like gelatin; in hot water it is almost completely dissolved, forming a milky, opalescent solution. Unlike tropon, however, it has not the disadvantage, when taken in milk or beef-tea, of becoming unpalatable in the long run on account of its insipid taste recalling that of glue, and may be taken for any length of time without ceasing to be relished. The forms in which it may be administered are practically unlimited and, in virtue of its solubility in hot water, more varied even than those of tropon. It contains about 72 cent. of albumin, the remainder being small quantities of fat, milk-sugar, and mineral salts. Extensive experiments made by Bloch and Wintgen have shown that it is a valuable substitute for other albuminous foods. Such has also been the experience of C. Virchow, who regards plasmon as an albuminous food containing a high percentage of nitrogen and of ready digestibility. The experiments he has made on himself show that it is an excellent substitute for every kind of proteid food, and that its nutritive value surpasses that of meat. Poda and Prausnitz, as a result of extensive experiments with plasmon, have reached conclusions similar to those of Virchow. They regard its nutritive value as at least equal to that of meat.

The source of plasmon is skimmed milk, which in many country districts is very cheap. The introduction of machinery, by which milk can be entirely deprived of its cream, has led to a large quantity of skimmed milk being left practically as a bye-product on the dairyman's hand. The albumin is precipitated from the skimmed milk, but instead of allowing it to ferment as in cheese-making, sufficient bicarbonate of sodium is added to replace the alkali which has been lost in the process of coagulation. By this means, and by a subsequent kneading process, which it undergoes by machinery in an atmosphere of carbonic anhydride, it is reduced to a soluble powder. By this procedure the contents of the milk-pail are no longer turned, as in former days, into cheese of varying degrees of digestibility; the cream is removed by a centrifugal machine and quickly made into butter, while the albumin is transformed into a portable and permanent food in the form of plasmon.

The third preparation mentioned—sanose—is a fine, dry powder having a slight taste and an odour resembling that of milk. It is composed of four parts of pure casein and one part of pure albumose. The taste and odour disappear when it is dissolved in water or milk. It should not be put into food which is cooked, or into boiling liquids, but always given in cold solution. It possesses, as would appear from the investigations of Biesenthal, all the properties of an albuminous food.

Sanatogen, also a milk product, consists of 95 per cent. of casein and 5 per cent. of glycerophosphate of sodium. It is a grayish white, dry, and practically tasteless powder which swells in cold water and forms a milk-like solution when this is heated. This preparation affords an easily digestible albumin combined with a salt belonging to the group of nerve tonics. According to Rybiczka, the advantages of sanatogen are its high nutritive value, its ready digestibility and freedom from irritating qualities, its favourable influence upon the appetite and upon nutrition in general, and possibly also upon the amount of hemoglobin in the blood. Auerbach has found it useful in the treatment of children's diseases, especially in spasmodic affections dependent upon malnutrition.

There remain to be mentioned two more of these products—globon and sosen. Globon, obtained from nucleo-albumin by treatment with alkalies, has been put on the market in a soluble and an insoluble form; the latter, a fine, light yellow powder, has been found by Kornfield to contain a large percentage of utilizable albumin and to be a highly satisfactory food. Sosen, which has made its appearance quite recently, is an albuminous preparation made from meat. It is insoluble in water, contains about 92 per cent. of albumin, and experiments have shown it to be but little inferior in its assimilating power to the albumin of meat.



## Gold Storage Notes.

### Opening of Cold Stores at Huddersfield.

THE Markets Committee of the Huddersfield Corporation have inaugurated another important addition to their already extensive municipal undertakings, and one which will enhance the value of their extensive markets. For some time the question of providing cold storage received the attention of the Markets Committee, but it was not until early this year that the question assumed a practical form. On June 14th, 1899, the Chairman, Councillor Dyson, supported by the Committee, persuaded the Council to grant the necessary funds with which to establish cold storage, not only for the meat trade, but also for other commodities, such as game, fruit, etc. It was felt by many that such an extensive market as Huddersfield has reason to be proud of would not be complete without cold storage, and in this view the Committee were supported by gentlemen who are extensively engaged in the meat trade in the town, and therefore strong supporters of the Corporation abattoirs, in connection with which the cold storage premises are carefully designed and carried out. The following particulars will give an idea of the magnitude of the various undertakings which belong to the Corporation and managed by the Markets Committee at a profit to the town, whilst the buildings are being maintained in an efficient and up-to-date condition.

Previous to 1876 the site of the present Market Hall was occupied by two rows of butchers shops named the Shambles, the revenue from which would probably be about £350 per annum. Slaughtering at that time as in every other town who have not availed themselves of the privileges of public abattoirs, was carried on under most unfavourable conditions in an old building at Aspley, both the Shambles and the slaughter-house in addition to the market rights, being the property of the ground landlord, Sir J. W. Ramsden, Bart. Having regard to the progress and development of the town, and the desire of the Corporation to carry out to the utmost limit such duties as are claimed to belong exclusively to municipal authorities, the Corporation considered a scheme for the taking over of the markets, including abattoirs, market hall, wholesale markets and other accessories. Their first work was to acquire the market rights and tolls, which were purchased at a cost of £6,491. Cattle market and fair ground £16,115, in addition to paying compensation for the abolition of slaughter-houses £1,343. It will thus be seen that the Corporation incurred an expenditure of about £38,402 before applying a penny of the ratepayers' money to the buildings required to be erected. The Corporation then took in hand and agreed to the erection of the market hall at a cost of £31,325, abattoirs £15,247, and a wholesale market £14,724, thus showing their total market rights and buildings to stand as an asset which is estimated at £115,901, exclusive of the cold storage buildings, and which to-day could not be purchased at anything approaching that sum.

The cold storage buildings have been erected from designs by and under the superintendence of the borough engineer, Mr. K. F. Campbell, M.Inst.C.E., A.I.E.E. The buildings are in local stone with ashlar dressings, and have been erected exclusive of superfluous architectural embellishment. On approaching the public abattoirs from the main entrance in Great Northern Street they admittedly add a considerable improvement to the already very handsome block of buildings comprising the abattoirs. Immediately above the door to the office is a neatly-designed inscription plate in brass encircled by a pollard oak frame bearing the Corporation arms, his Worship the Mayor's name, together with the names of the members of the Committee, Town Clerk, Engineer and the Market Superintendent. The accommodation provided contains for chilling purposes not less than 10,600 cubic feet of

area, whilst accommodation for fruit, game and other commodities measures 11,000 cubic feet. The contractors for the masonry works are Messrs. Abraham Graham and Sons; joiners, Messrs. Grant and Hughes; slater, Mr. T. B. Tunnacliffe; plumber, Mr. Samuel Hale; painter, Messrs. Preston and Sons, all of Huddersfield; ironwork, Messrs. Lockerbie and Wilkinson, Birmingham; refrigerating plant, the British Linde Co., London; all of whom have executed their respective contracts in a satisfactory manner. In evidence of the careful application to the requirements of cold stores so as to ensure the best results on the most economical basis, the following description of the machinery installed in the buildings may be of interest.

The refrigerating machinery, which the committee have adopted after very careful investigation by the borough engineer, is on the well known Linde ammonia compression and air circulation system, and is supplied by the Linde British Refrigeration Co., Ltd., of 35, Queen Victoria Street, E.C. It is on the same system as those supplied by the above company to the Corporations of Manchester, Greenock, St. Helens, Melbourne and others. This particular plant is practically the same, but with all the latest improvements, as the one erected at the Greenock slaughter-house nearly five years ago, which has proved not only a very great advantage to the butchers, but also to the ratepayers of that town. It is also similar to a small plant that was erected by the St. Helens Corporation two years ago, which has proved so successful in every way that it is being replaced now by a much larger plant of the same kind. The machinery consists of the following principal parts:—A gas engine, an ammonia compressor, an ammonia condenser, a disc air cooler with fan, and the necessary shafting and belts and pipe connections for rendering the system complete in every detail. The gas engine and the ammonia compressor, which, driven direct from it, are situated in a fine spacious engine room, which with great prudence and foresight has been made large enough to permit of duplication at a future date, which it is only reasonable to expect will be necessary to meet the increasing trade. Above the engine room, on a special flat provided for the purpose, is the disc air cooler, and the fan for circulating the cold air, and the ammonia condenser. The compressor, which is driven direct by one of Crossley's gas engines of latest pattern, forces the ammonia after compression to the ammonia condenser, which is of the open type. The ammonia contained in it is cooled by means of a cascade of water which is permitted to fall over an open coil. The condenser is so constructed that every coil of it is always perfectly visible, and easily accessible for painting or examination whenever desirable. The ammonia, after having been liquefied in the condenser, passes back to the engine-room through pipes provided for that purpose, and flows through a valve, known as the regulator valve, to the cooler coil in the disc air cooler tank. The ammonia, on passing the regulator valve in the engine-room expands and vapourises, with the result that a very low temperature is produced, and at this low temperature the ammonia passes through a coil in the disc air cooler, thus cooling the brine contained in the tank forming part of the cooler. After the ammonia has done its work in the air cooler it returns to the compressor to be compressed again, thus completing the cycle of operations. It will, therefore, be seen that the same ammonia is used over and over again, the consumption of this chemical being extremely trifling. The patent disc air cooler referred to above consists of a tank containing brine, above which there are shafts on which are fixed a large number of discs of thin sheet iron plate. These shafts are kept revolving slowly with the lower half of the discs upon them immersed in the cold brine. A fan is provided which the air out of one side of



the chamber to be cooled, passes it over the cooler through the spaces between the discs, and thus the air is cooled on its passage over the surfaces of the revolving discs, which are kept wet with cold brine, by means of which the air is not only cooled but purified before it returns to the cold chamber. The motion imparted to the air by means of the fan, gives the cold air the power of chilling much more rapidly than if it was stagnant, as is the case when the chambers are cooled by means of direct expansion pipes or brine pipes attached to the ceiling and sides of the chambers.

With this system any desired temperature may be maintained in any of the five chambers which the plant has to cool, the temperature of the chambers being controlled by the quantity of air that is allowed to pass through them. If, therefore, one of the rooms was becoming colder than it was desired, all that is necessary is to close the air shutters and isolate the room until such time as is found necessary to apply cold air again. Another advantage of this system is that supposing an extremely low temperature was required in any one room, the whole refrigerating effect of the plant could be concentrated on that one room by passing the whole of the air through it, having shut off all the chambers. In this particular case the chambers are so arranged that three of them can be used for chilling locally killed meat, the other two being used for general storage purposes, and the machine is sufficiently powerful to produce a temperature

of twenty degrees in all the five chambers if desired, but as stated above any desired temperature can be maintained in any particular room. The plant strikes one as being exceedingly simple, and the design and workmanship are of the highest order. The total cost of the building is about £3,300.

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#### New Installations.

MESSES J. AND E. HALL have completed the refrigerating installation for the "Suffolk," "Norfolk," and "Sussex," which will be the largest ever fitted on board ship. Each of them can carry 130,000 carcasses of mutton. The same firm will fit the four new ships now in course of construction for the P. & O. Company.

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#### The North British and Cold Storage and Ice Company's premises at Leith.

THE total cost amounts to £30,000. The building is 142ft. long, 90ft. broad, and 70ft. high. There are eight cold chambers, each of a capacity of 9,000 to 14,000 cubic feet, the temperatures maintained in them ranging between 15 deg. and 38 deg. Fah. The De La Verge system has been adopted, and the machinery supplied by Messrs. L. Stern and Co. A 40-ton machine makes 30 tons of ice a day from the town water.

## Official Reports and Notes.

### Hereford County Council and the Sale of Food and Drugs Act.

SAMPLES have been submitted during the quarter as follows:—5 of milk, 3 genuine and 2 adulterated, (1) 6 per cent. added water, and (2) 33 per cent. deficient in fat; 2 margarine, genuine; 1 salt butter, genuine; 1 lard, genuine; total, 9. In the case of milk adulteration with 6 per cent. added water, the Leominster Borough Justices inflicted a fine of only sixpence, without costs, which appears to the committee to be a very inadequate penalty. Proceedings in the other case are still pending.

Proposing the adoption of this report, Sir Richard Harington alluded to the Leominster case, disclaiming any desire to suggest that they were a Court of Appeal from the decision of any justices, and saying that no doubt the Bench had the facts before them and exercised their judgment; but stating that as a rule it was quite useless to have a prosecution if they were let off with a perfectly nominal penalty and the county was penalised to a substantial extent.

Councillor Evans seconded, and it was carried.

### Northamptonshire County Council and the Foods and Drugs Acts.

THE tenth annual report of Mr. T. Mattinson, Chief Inspector under the Food and Drugs Acts, was presented. During the year 235 samples were purchased, and of these 38 were adulterated. Proceedings were taken against 20 persons, 14 of whom were convicted. "In one milk prosecution the defendant relied on a warranty and the case was dismissed. Proceedings were then taken against the wholesale dealer (a farmer) for giving a false warranty; this case was dismissed also."

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#### Lancashire and the Food and Drugs Act.

THE County Analyst reports to the Lancashire County Council that he has analysed during the past quarter 329 samples under the Sale of Food and Drugs Acts, of which 42 were offences, and during the same period 12 samples of water have been analysed for sanitary authorities in the county. The following is a summary:—123 samples of milk (14 offences), 56 of butter (16 offences), 9 of coffee, 2 of tea, 52 of spirits (3 offences), 25 of small groceries, 6 of drugs (2 offences), 54 of miscellaneous (7 offences).

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

### Appeals in the High Court.

#### Boric Acid Adulteration Appeals—The Convictions Upheld.

At Liverpool, on July 20th, before the Recorder.

The only business before the Court was the hearing of two boracic acid adulteration appeal cases.

The first appeal was that of William Beadle, grocer, 234, Mill Street, against a conviction by the Stipendiary Magistrates, and a fine of £20 and costs, for having sold, to the prejudice of the purchaser, margarine, which was not of the nature, substance, and quality demanded, it having been adulterated by the addition of 0.73 per cent. of borates, equal to fifty-one grains to the pound. Mr. Tobin represented the respondent justice, and Mr. Taylor, Q.C., and Mr. Reginald Harris, were for the appellant.

Mr. Tobin, in opening the case for the respondent said that the appellant would rely upon the provisions of Section 6 of the Act, but he must satisfy the Court that the boracic acid could not injure the public, and that it



was necessary for the production and preservation of margarine, as an article of commerce. There would be a grave conflict of expert evidence as to whether boracic acid was injurious to health or not, but he (Mr. Tobin) contended that even if the borax was harmless the appellants had contravened the section by adding an unnecessary quantity of chemicals. It would be shown that some manufacturers did not use boracic acid at all, proving that margarine could be manufactured and sold without the addition of boracic acid. In all his experience the public analyst of Liverpool had never found anything like such a percentage of the acid as was found in this case. Inasmuch as borax was used to arrest putrefaction, which had been already set up, or to retard putrefaction, its use opened the door to manufacturers using it to conceal a rancid or inferior substance, or to foist off on the public an inferior article, although he did not suggest such was the case in this instance. He would call evidence to show that anything above .059 of boracic acid was injurious to health, but in this case the proportion was 0.73, or actually twelve times that amount. Anything above .05 upset digestion, and injured the mucous membrane of the stomach. He asked the Court to say that manufacturers should not be allowed to be the means of administering to the public an article which had such ill-effects, and especially when neither manufacturers nor retailers adopted the honest course of announcing by label that a certain amount of boracic acid had been added as preservative.

Professor Royce, University College, was called, and, in reply to Mr. Tobin, gave it as his opinion that .05 of boracic acid would be injurious to health. It was not necessary as a preservative, and he assumed that it was added to the margarine to prevent putrefaction. The use of the acid in food was forbidden in Germany. He had experimented on a number of kittens, and after taking a small quantity of the acid in milk, 40 grains to the gallon, some of them had died. Cross-examined by Mr. Taylor, witness said, the conclusions were based on the experiments made on the kittens. A dose of 15 grains per day would not be beneficial to human beings apart from any particular disease.

Dr. George V. Poore, professor at University College, London, said that boracic acid given in food was injurious to health, as it made the food relatively less digestible.

Mr. Williams, Public Analyst, Liverpool, said that from September up to the present time he had examined 105 samples, but had never found so great a proportion of the acid as in the sample under consideration.

This concluded the case for the respondent, and Mr. Taylor called

Dr. Rideal, of University College, London, who said that .05 to 1 per cent. of boracic acid was required to arrest rancidity in margarine during warm weather. In moderate quantities the acid was required as a preservative, and a man would have to eat a large quantity of margarine containing the acid—probably a ton—before he would suffer ill effects. In reply to the Recorder, witness said he believed a man would become uncomfortable rather by eating the fat than the boracic acid. The actual position of affairs was that medical science had no evidence of the injurious effects of the boracic acids in the quantities used. In a sound man it had no bad effect so far as the proportion for preserving food was concerned. Cross-examined by Mr. Tobin, witness said he believed it was necessary to use the acid in the Irish margarine trade.

Dr. Edward Davies, analytical chemist, who said he had practised in Liverpool for nearly forty years, declared that he never knew a case where injury had been caused by the administration of boracic acid in any article of food. Taking the quantity of margarine usually consumed by a person, the addition of the acid would not be deleterious. Witness had taken considerable quantities of cream with 20 grains of acid to the pint, and he had never experienced

any ill effects (laughter). Witness admitted that when added the acid would not correct rancidity. Cross-examined by Mr. Tobin, witness said he had not made experiments to discover the effect of the acid in human digestion, and therefore could not give an opinion.

Drs. A. Barron, D. Smart, Buchanan, and J. R. Lota spoke to having used boracic acid in various diseases with good effects.

James Reidy, Limerick, deposed that he manufactured the margarine, and added a proportion of boracic acid as a preservative. It was absolutely necessary for their trade to put in a quantity not exceeding 1 per cent.

Patrick Reidy, of Limerick, said he had used the acid as a preservative for nineteen years.

The Recorder, in dismissing the appeal, said that, although boracic acid was a drug, which might, in the hands of competent and skilled men, be capable of being administered for the benefit of mankind, he could not agree that, when put indiscriminately into any article of food it was "a matter or ingredient not injurious to health." It was not a question of the quantity added, and if judgment went in favour of the appellants there would be no limit to the quantity of acid which might be added to the margarine. He also held that the acid was not required in the production or preparation of the margarine. His Honour added that all parties had approached the discussion with an honesty of purpose, and there was no personal imputation upon the manufacturers. Such a decision as he gave was required so as to keep commerce within fair bounds. He would state a case on behalf of the appellant.

William Muirhead and Sons, fish, game, and poultry dealers, Leece Street, appealed against a decision of the stipendiary magistrate penalising them in the sum of 20s. and costs for selling cream to which boracic acid had been added. Mr. Tobin again represented the respondent justice, and Mr. Geer was for the appellants. Mr. Geer said that the allegation in the case was that there had been an addition of .045 boracic acid to the cream, but he did not take the point, in view of the decision in the previous case, that it was not injurious to health. His contention was that it was not sold to the prejudice of the purchaser, because the bottle sold was labelled, setting forth that it was a mixture for the purpose of preserving.

His Honour held that the label was not full and ample, and the sale was therefore to the prejudice of the purchaser. The conviction would be confirmed, and he would grant leave for appeal within fourteen days.

MILK PROSECUTIONS—ANALYTICAL CERTIFICATE CHALLENGED.—In the Summons Court, before Mr. Charles M'Lorinan, J.P., Inspector D. M'Master summoned William Tipping, of Kilcross, Ballymather, for having on the 20th May sold milk for Andrew Thompson adulterated with 9.42 per cent. of water. Mr. Spiller prosecuted for the Corporation, and Mr. Tughan appeared for the defendant. Evidence having been adduced, Mr. Tughan entered upon a lengthy defence of his client on a point of law. Mr. M'Lorinan declined to listen to law which was well known to him. Mr. Tughan said he was really surprised that a gentleman sitting in the capacity of magistrate would debar any advocate from stating his case on behalf of a defendant liable to a maximum fine of £20. Mr. Spiller said Mr. Tughan had no right to make any such remark. His Worship had simply stopped him repeating law that was A B C to his Worship, as well as to every solicitor in the Court. Mr. Tughan asked that the resident magistrate sitting in the adjoining court should be called in to hear the case. Mr. M'Lorinan: No. Mr. Tughan: We are challenging the certificate of the public analyst. Mr.



Mr. Lorinan: Produce evidence of that. You are doing nothing but challenging. Mr. Tughan: I really request at this stage that the resident magistrate do hear this case. Mr. M'Lorinan: I will not accede to that. I am quite competent to hear it, and I will hear it. Mr. Tughan said when there was a dispute between the public analyst and any other analyst his Worship had power to send the milk forward to Somerset House to be analysed. They would prove that they received a sample of the milk which was submitted to Sir Charles Cameron. They received it sealed, and they posted it to Sir Charles Cameron. They had received his result, as they had been sent back the certificate, which they put in evidence there. Mr. Spiller said he had asked Mr. Tughan long ago to produce evidence of this. The defendant gave evidence in support of Mr. Tughan's statement. The authorities appeared to be different, and it was decided to send the milk forward for analysis to Somerset House.—A similar course was adopted in the case of the same complainant *v. Thompson*.

At Altrincham, on July 9th, James White, of Greenwood Street, was summoned for unlawfully selling milk which was adulterated with 10 per cent. of water. Mr. Roger Hind, a County Council Inspector, deposed to purchasing the milk, and produced the certificate of the County Analyst, Mr. J. Carter Bell, showing the amount of the adulteration. He added that the defendant stated he had a warranty from the farmer for that particular milk, and he sent him a paper dated June 15th, whereas the offence was committed on the 25th May. The defendant said the first warranty was a verbal one, and the farmer had since admitted he had adulterated the milk. The Magistrates' clerk (Mr. Harris) stated that in Manchester there were labels put on the cans indicating the guarantee. The maximum penalty was £20. The Chairman said the warranty must be in writing. While exonerating the defendant from knowledge of the adulteration, he was responsible, he would be fined 20s., including costs.

At Doncaster, on July 17th, the Farmers and Cleveland Dairies Company, Limited, were charged with a breach of the Food and Drugs Act by selling milk not of the nature and character required. The Town Clerk (Mr. T. B. Sugden) prosecuted, and Mr. Tovey defended. Mr. Allan, the public analyst, stated that the sample taken had been deprived by skimming of a certain quantity of fat, and only contained about half the minimum proportion of fat. Mr. Tovey submitted that Section 14 of the Act had not been complied with, as after the purchase had been completed the officer should divide the milk into three parts, which should be then and there separated. The magistrates (Messrs. Mettleton and Meacock) dismissed the case, and said that their reason for so doing was that Section 14 of the Act had not been complied with.—Walter Stevenson, milk dealer, Balby, was also summoned for selling milk which was not in accordance with the requirements of the Food and Drugs Act. The Bench considered the case proved, and inflicted a penalty of 10s. and costs.

John Davies, collier, Beaufort, was charged with selling milk, on June 1st, which was deficient by 30 per cent. of fat. Mr. Thompson, County Analyst, deposed to receiving a sample of milk from Mr. Serjeant, County Council Inspector, for analysis. The result of the analysis proved that it was deficient to the extent of 30 per cent. of fat. It must have been abstracted, or the milk was separated, and it could not be due to the poorness of milk. There was no indication of water having been added. Mr. Davies; The skim milk would be mixed with the next day's milk. Dr. Thompson: Very likely, and it would come to the same thing. T. E. Serjeant, County Council Inspector, deposed to purchasing the milk from the defendant's daughter in the street at Beaufort. Mrs. Davies, wife of the defendant, said she milked the only cow she had night and morning, and she swore the milk was not tampered with. She generally took the milk on the rounds herself, but her daughter took it the morning the Inspector made the purchase. In announcing a fine of £5, inclusive of costs, the Chairman said they were bound

to put a stop to this, as it affected such a large number of children in particular whose health depended upon the milk they took being of the proper quality.

NEW USE FOR CONDENSED MILK.—On July 18th, Mr. Young asked Mr. Mead to condemn a large quantity of tins of condensed milk which had been seized at Poplar. The examination, he added, would be rather a dangerous undertaking for his Worship, as five of the tins had already burst. Mr. Mead: Then they are more fit to be used for artillery. Dr. Alexander, the Medical Officer of Health for Poplar, suggested that the tins had better be despatched for China. The magistrate, having examined the tins which were labelled, "Meissen Brand, prepared in Germany," Sole agents, E. and H. Olendorff, 59, Mark Lane," ordered their destruction.

BUTTER AND MARGARINE PROSECUTIONS.—At Hauley, July 18th, Annie Whitehurst, Charles Arthur Whitehurst, and Annie Birks, mother of the female defendant, were summoned for selling adulterated butter. Defendants all live at 44, Market Street, Fenton. Three purchases of "butter" were made from the defendants at three different places. Inspector Gifford saw the lad Charles Arthur hawking butter in Tunstall, and purchased a pound. He asked the lad for his address, which, though first refused, was ultimately given, with the remark, "I would rather do two months than bring any trouble on my mother." It was further stated that the defendant had represented in Tunstall that he had come from farms at Uttoxeter, Trentham, and Stone. Mrs. Whitehurst was also discovered by Gifford hawking butter, and afterwards the inspector visited the Fenton address, where he discovered the defendant Annie Birks selling an article which was not labelled margarine. In each instance a sample was bought, which on analysis was certified to be margarine. For the defence it was stated that the article was bought in good faith at Leek market as butter, but no warranty was obtained. The Bench fined Annie Whitehurst £10 and costs in one case and the costs in another. The other defendants were fined £5 and costs. In all the fines amounted to £24 10s. 6d.

At Thames Police Court, on July 18th, Mary Jones of 210, Jubilee Street, Mile End, E., was summoned for an offence under the Sale of Food Act, 1899. Mr. Young, who prosecuted on behalf of the Mile End Vestry, said it was unlawful to manufacture any margarine which contained more than 10 per cent. of butter fat. Mr. Twaites, the Inspector, purchased half-a-pound of 10d. margarine, which, on analysis, was found to contain 43 parts of butter fat and 57 of margarine. Mr. Mead: Then the sample was better than it was represented to be? Mr. Young: Yes; but it contains more butter fat than is allowed, and the defendant has been previously cautioned. Mr. Mead: Why is 10 per cent. allowed? I should have thought butter fat would have been prohibited altogether, for allowing the 10 per cent. is admitting the thin end of the wedge. The defendant, in answer to the charge, said the butter got mixed with the margarine. A previous conviction under the Margarine Act having been proved, Mr. Mead said he did not look upon the offence as a serious matter, and imposed a penalty of 10s. and 2s. costs.

SUGAR PLUS ANILINE DYE.—At Llanely, Mr. J. Phillips, Furnace, Llanely, was charged with selling adulterated sugar. Mr. Seyler (analyst) said the sugar he analysed had been coloured with aniline dye so as to represent Demerara sugar. The Bench said they were satisfied that there was not sufficient aniline to injure health, and dismissed the case.

"GOLDEN SYRUP" PROSECUTION.—A case of some interest to shopkeepers came before the Hyde Borough Magistrates. William Cooper, grocer, was charged with selling adulterated syrup. Samuel Lea, Inspector under the Food and Drugs Act, said he called at the defendant's shop on June 6th, and asked for a pound and a half of goldensyrup. He sent a sample to the Public Analyst, who reported that it contained 55 per cent. of glucose



syrup, which was derived from starch. Mr. J. Brooks, for the defendant, said the latter had been a shopkeeper in Hyde 32 years, and in the whole of his career had never been asked for golden syrup; what the customers did ask for was syrup treacle. He had some golden syrup sent him about 15 years ago, and had to return it, not being able to sell it. The Magistrates believed that a technical offence had been committed, and fined the defendant 5s. and costs.

**COLOURING OF PEAS.**—At Northampton Borough Petty Sessions, F. H. Phillips, fishmonger, 2, George Row, and Henry Wilson, fishmonger's manager, George Row, were each summoned for selling a bottle of preserved peas not of the nature, substance, and quality of the article demanded, on March 5th. Mr. G. J. Phillips, who appeared for the defendants, stated that this was the case of the alleged copper colouring of peas which was adjourned for three months in order that the Court might know the result of the Departmental Commission which was then sitting on this question of colouring peas and other matters. The Magistrates would not be surprised to hear that the Commission had not completed their enquiry. He suggested that the best course to adopt would be for the case to be adjourned *sine die*. The Magistrates adopted this course.

**SPIRIT ADULTERATION PROSECUTIONS.**—At the Oxford Petty Sessions, Owen Painton, landlord of the Blue Boar Inn, Longworth, was summoned by Supt. Gamble, of Reading, for selling whisky eight degrees under proof. Mr. Read, of Reading, appeared for the prosecution, and Mr. T. W. Mallam, of Oxford, for the defendant. Supt. Gamble proved purchasing the whisky, and produced the analyst's certificate showing that it was eight degrees under proof. Mr. Mallam said there were one or two features in the case which he wished to bring before the Bench. Defendant had kept the house for five years, before that he assisted his sister for five years, and the house had been kept by the family for over 60 years, and no stain had been brought upon their characters. Up to the time that the extra duty was put on spirits on account of the war, defendant had always been supplied with spirits which were at full proof, and he always added 3½ pints of water to a certain quantity, which he was entitled to do. When the extra duty was put on, the wine merchants sent out the whisky below proof, but did not inform the defendant personally of the fact, although the permit was on the jars, which defendant did not understand. He therefore added the same quantity of water, and thus brought the spirits eight degrees below proof. He did not know that any alteration had been made by the wine merchants, and therefore there was no intent to defraud the public. He asked them under the circumstances only to impose a nominal penalty. Albert Harry Emmens, a representative of Messrs. Belcher and Habgood, wine merchants, of Abingdon and Farringdon, stated that up to April last they supplied defendant with Irish whisky at proof; after that it was seven degrees under proof. Defendant was not informed personally of the alteration having been made, but it was notified on the jars. Colonel Edwards said he thought it was the duty of wine merchants to make known to their customers any alteration of this kind which they made, as otherwise anybody could set up a defence. Defendant would be fined £1, and costs 7s. 6d. The license would not be endorsed.

Eliza Gibson, tenant of the Abergavenny Arms, Black-rock, Brighton, was summoned for selling whisky and gin adulterated with water. Mr. H. T. Gates, solicitor, Brighton, defended, and pleaded guilty. He said defendant had diluted the spirits from instructions in a trade journal. She had now entered into arrangements with her spirit merchant to supply the spirits diluted according to the Act. A penalty of £1 16s. was inflicted.

**IMPORTANT CASE OF SALESMAN AND BAD FOOD.**—At West Ham Police Court, on July 18th, Richard Carter, a potato salesman, of 3, Stratford Market, was summoned for exposing for sale for the food of man three bags of

potatoes which were unsound and unwholesome and unfit for the food of man. Dr. C. Sanders, medical officer of health for West Ham, conducted the prosecution; Mr. Stephen Lynch defended. On June 26th a fishmonger of Manor Park bought four bags of potatoes at the rate of 80s. per ton. He afterwards found the bulk of the goods bad and took them back, but some quibble arose as to the bags having been opened, and the money was not immediately refunded as one of the salesman said it would be. Enderley then went to the West Ham Sanitary Office, and Mr. Warwick, an inspector under the Food and Drugs Act, went to the warehouse. He asked to see some old potatoes, and was shown some which were on a platform in front of the warehouse where such goods were usually exposed for sale. The bags were turned out, and large numbers of the potatoes in each bag were found to be unsound, soft, and in a mouldy condition. They were seized, and afterwards condemned as unfit for the food of man. For the defence it was shown that it was the custom of the wholesale trade that buyers of goods purchased on the express condition that they themselves "sort the contents and destroy the unsound portion from any packages of either fruit or vegetable, the contents of which may prove partially unsound, either from delay in transit or any other cause, before such goods are offered to the public." Customers were, in a bill notifying these conditions—several of which were posted about the warehouse—requested to examine all goods as to "quantity, quality, and soundness, as when sold no allowance will be made, goods exchanged, or money refunded." These goods were part of a consignment of Dutch yellows, and it was put in evidence that one of them going bad would affect those surrounding them, and Mr. Lynch said that in cases of the kind customers got goods at low prices to repay them for the trouble of sorting the goods, which they well knew they would have to do. The defendant did not sell by retail, and all his customers knew of the rule. Mr. S. Lynch having proved that the notice referred to was exposed on the defendant's warehouse, urged that the case must fail, and at great length he quoted the dicta of the judges in "The Queen v. Dennis" (2 Q.B.D., 1894). Mr. Baggallay said he could not convict here, as it was merely a question of fact as to the exposure of the notice, and he would hold that the notice was exhibited. This was not the case of a retail seller. The defendant was a wholesale dealer, and all his customers knew perfectly well all the conditions of sale. Dr. C. Sanders said the matter was one of importance, and asked his worship whether he would state a case. Mr. Baggallay: No, I won't state a case. Eight judges to one say it is a question of fact for the Court or a jury. The case was then dismissed, and on the application of Mr. Lynch three guineas costs were allowed to the defendant. Mr. Henry James Moore, Mr. Carter's manager, was similarly summoned in respect of the same parcel of goods, but Dr. Sanders announced that he would not proceed with that summons.

**COFFEE PROSECUTIONS.**—At Lambeth, on July 18th, Louisa Frost, of Lambeth Walk, S.E., was summoned for selling coffee containing 75 per cent. of chicory. Defendant said she sold the article as she received it from the wholesale place. Mr. Hopkins: Unfortunately that has nothing to do with it. The defendant was ordered to pay the costs, 12s. 6d.—Marie Watkins, of Walnut Tree Walk, S.E., was summoned for selling coffee adulterated with 75 per cent. of chicory. The article was sold at the rate of 1s. per lb. For the defence Blanche Cole, a girl of thirteen years, who served the article, said she was told by the defendant to say it was coffee and chicory, but forgot to do so until the purchaser was nearly out of the shop. Mr. Hopkins: This comes of letting school-children do shop assistants work. A fine of 10s. and costs was imposed.

At Lambeth, on July 19th, Jessie Scott, of Brayard's Road, was summoned. A sample of "shilling coffee" purchased at the defendant's shop was found to contain 58 per cent. of chicory. A fine of 20s. and costs was imposed.



At Hull, on July 19th, for supplying adulterated coffee. Sarah Ann Hopper, 113, St. Mark's Square, was fined 30s. and costs; and William Bygott, Bright Street, 20s. and costs for selling adulterated coffee. In the case of William Valentine Mersey, 68, Barnsley Street, it was stated that the coffee, which was sold by his daughter, was adulterated to the extent of 50 per cent. with chicory. He was fined 40s. and costs. The Stipendiary said he was afraid the practice of selling mixtures was not an uncommon one, as poor people purchased from small tradespeople. Mr. Learoyd said that these were the first samples taken for some time by the Inspector.

Charles Burton, grocer, of Writtle, was charged with selling coffee adulterated with 75 per cent. of chicory, on June 5th. Defendant alleged that the sample was not obtained "in an honest or a straightforward manner." The Deputy-Chief Constable (Mr. Raglan Somerset) said he went to defendant's shop and asked for half a pound of coffee. The defendant's son served him with it from a tin labelled "coffee," and charged him 6d. for it. The boy afterwards called the father on the suggestion of witness. Defendant then said that the sample was not "pure coffee," and that his son ought to have labelled it as "coffee and chicory." The report of the County Analyst was due the effect that the coffee was adulterated with 75 per cent. of chicory. Defendant said his son had only just left school, and did not know the rules. The parcel, he alleged, was taken from his son before he had a chance to write "coffee and chicory" on it, and before it was wrapped up. The Deputy-Chief Constable denied this, and said that the parcel was tied up and handed to him. Out of fairness to the lad, witness sent for the father. He need not have done this. Defendant said it was no benefit to him to sell the coffee at 1s. a lb. The Bench imposed a fine of £1, with the costs, 7s. 6d., in default 14 days' hard labour.

**DRUG ADULTERATION PROSECUTIONS.—MILK OF SULPHUR.**—At New Mills Police Court on July 4th, upon the information of Mr. W. H. S. Crabtree, inspector under the Food and Drugs Act, Peter Goodwin, of Newtown, New Mills, was charged with selling milk of sulphur which was adulterated with 50 per cent. of sulphate of lime. Defendant formally pleaded guilty. Mr. Crabtree explained to the Bench that on the 22nd May he visited defendant's shop for the purpose of making a purchase of milk of sulphur. That was a commodity which he believed Mr. Goodwin had not sold much of, in fact he had not sold any but to him (the Inspector) for the last three years, and he understood that defendant took over the stuff when he took over the shop from the last person who occupied it. Upon these grounds he did not wish to press the case against Mr. Goodwin. Had the young lady who served him told him the facts before he purchased the article and sealed it up he should have given warning there and then and not taken police court proceedings. But having sealed up the article he felt bound to send a portion of it to the county analyst. Mr. Goodwin had since done away with the stuff, and with the permission of the Bench he (the Inspector) would withdraw the case on payment of all costs. The magistrates allowed the case to be withdrawn on payment of Court costs only.

At Kensington, on July 17th, Bartlett Judd, grocer, 155, Earl's Court-road, Kensington, S.W., was summoned for having sold as milk of sulphur an article certified to be of the character of sublimed sulphur, or powdered sulphur. Defendant said that the article was sold in perfect ignorance as to its not being what was asked for. Fined 5s., with costs.—Samuel Buckmaster & Son, oilmen, &c., 163, Portobello road, Notting Hill, W., were summoned for a similar offence. A representative of defendants stated that the article was sent by the firm to their branch shops as "sulphur," and they never professed to keep "milk of sulphur." He guaranteed the article to be perfectly pure. Mr. Bird (magistrate): But the man asked for one thing and you gave him another thing. Fined 10s., with costs.

**SWEET NITRE.**—At Darlington on July 10th, Mr. T. A. Atkinson, Inspector, summoned Taylor's Drug Co., Ltd., under the Food and Drugs Act. The Town Clerk (Mr. H. G. Steavenson) prosecuted, and Mr. Ald. Barron defended. The evidence was that there was bought sweet nitre at the shop of the defendants, and it was found to be 25 per cent. below the standard by Mr. Stock, the County Analyst whereas it was urged that, allowing for ordinary evaporation, there should not have been more than 2 per cent. deficiency. The defence was that the spirit was of a very volatile nature and that occasionally there would be very considerable evaporation. The goods had been, it was stated, purchased from a reliable firm and had not been tampered with. Fined 10s. and costs.

Several cases taken under the Food and Drugs Act were heard at the Burnley Borough Police Court on July 11th. C. E. Dodsley, chemist, Manchester Road, was summoned for selling adulterated spirits of nitrous ether. Mr. Wheatley, the Assistant Town Clerk prosecuted, and called Inspector Williams, the inspector under the Act, who gave evidence as to the purchase of the spirits of nitrous ether, and stated that the borough analyst's certificate showed the sample to be 55 per cent. deficient of ethyl nitrite, the chief constituent. Mr. Dodsley wrote admitting the deficiency. Mr. Wheatley, in answer to the Bench, said the drug was used for the purpose of inducing perspiration in case of colds. Mr. Harrop, the Chief Constable, stated that defendant was fined 10s. and costs some time ago for selling adulterated camphorated oil. He was now fined 15s. and costs.—Daniel Oxley, grocer, 27, Finsley Gate, was fined 10s. and costs for a similar offence, the deficiency in this case being 50 per cent.—Samuel Fletcher, chemist, Parker Lane, was mulcted in 10s., including costs, for also selling adulterated spirits of nitrous ether. It was shown that there was a deficiency of at least twelve per cent. Mr. Fletcher contended that the deterioration was natural, and stated that the bottle was wet when the sample was purchased, an affirmation which the prosecution denied.

**USELESS CAMPHORATED OIL.**—Joseph Price, grocer, Beaufort, was summoned at Tredegar, for selling a mixture purporting to be camphorated oil, but which was adulterated. Mr. T. G. Powell, Brynmawr, defended. Mr. Moore, Newport, said the defendant was liable to a penalty of £50 for this offence. He recognised that the wholesale dealers should be punished in some way or other, but even giving the defendant credit for every possible circumstance in mitigation, the Bench were fully aware of the importance of the absolute purity of this mixture, which was so largely resorted to by the poorer classes. It was of primary importance that the oil should be olive oil, but in the sample before them there was not drop of olive oil, but a mineral oil which did not bring about the desired result. Camphorated oil of proper quality should contain 21 per cent. of camphor, and 79 per cent. of olive oil, but in the sample there was only one-third the proportion of camphor, and not a drop of olive oil. There was a tricky label placed on the bottles as bought from the wholesale dealers. Mr. Powell accepted the facts as put by Mr. Moore, but he wished to point out that his client believed the oil to be of the quantity required by statute. His client was himself duped in the purchase of the oil. The amount of the fine inflicted upon him would indicate to the public whether the Bench thought he was a man who had sold wilfully and deliberately this stuff which was not of the quality prescribed by the law. If the fine was small it would show that he was more sinned against than sinning. The object of the legislature would be attained if the wholesale people were got at before the stuff was sent out, but the machinery of the Act was not sufficient to reach them at present. His client like anyone else, retailed what he purchased, and he was the sufferer. Defendant was fined £2 and £3 2s. costs, and the chairman said it was an extremely bad case. He was speaking not of the act of the defendant, but of the sample of oil which was sold to the public.



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## Food and Sanitation.

SATURDAY, AUGUST 11, 1900.

### What is Demerara Sugar ?

SOME weeks ago emphatic scientific evidence was given at Birmingham that Demerara Sugar was dyed by the manufacturers themselves.

This evidence showed the Demerara or British Guiana manufacturers in such a light that there is little cause to wonder why local authorities dropped the question in disgust.

But was the scientific testimony true ?

According to the West India Association of Liverpool it has not an atom of truth to support it. The British Guiana Planters' Association and the Chamber of Commerce of Georgetown send the following letter under date June 20th, 1900 :—

SIR,—The attention of those interested in the production of Demerara crystals having been called to the recent proceedings in the Law Courts of Birmingham against a grocer for "selling Demerara sugar which was not of the nature, substance, and quality" of the article demanded, inasmuch as it contained 100 per cent. of dyed "sugar crystals," we have to say that there is no truth whatever in the statement that aniline or any other dyes are used in the manufacture of Demerara cane sugars.

In support of this statement we have sent certificates from the 54 sugar factories in this Colony, signed by the respective managers, to the West India Committee, London, where they can be seen by anyone interested, and we challenge the fullest investigation into the correctness of this assertion.

We are, Sir, your obedient servants,

British Guiana Planters' Association,

A. SUMMERSON, Secretary.

Chamber of Commerce of the City of Georgetown.

J. H. DE JONG, Secretary.

Georgetown, Demerara, British Guiana,

June 20th.

It is therefore very evident that there is a screw loose somewhere ; that one side or the other in this controversy must be stating "the thing which is not."

Meanwhile it is interesting to note that the Cardigan-shire authorities have three cases coming on for further hearing on September 26th, which will no doubt be decided upon this point. Whether in the face of this denial by 54 sugar manufacturers that Demerara Sugar is a term meaning dyed crystals any eminent scientific gentleman will repeat the aniline dye statement remains to be seen.

As illustrative of the quandary in which local authorities find themselves we note that at the quarterly meeting of the Carmarthenshire County Council Mr. John Jones, Inspector of Weights and Measures for the Eastern Division, reported having summoned a grocer for selling sugar purporting to be Demerara, which the analyst had said was not such. But the Magistrates had dismissed the case, and recommended him to consult the Council with regard to taking proceedings in similar cases in future. In his opinion dyed sugar was a serious fraud, and he would like the Council's instructions whether he should proceed in such cases in future.



Mr. Gwilym Evans said he was on the Bench when the case in question was heard, and he was of the opinion that it was not necessary for Inspectors to take up cases which involved technicalities of this sort. Provided the sugar was pure sugar, and that it was not injurious to health, there was no need to take proceedings. He would, however, like the opinion of the Council on the matter.

Dr. Thomas said he thought there was a very marked difference indeed in the qualities of the various sugars, and he would go further and say that beet sugar was not nearly so good as other sugar. The difference was not a technical

one, but a real one, and sugar sold as Demerara should be such, because in cases of children it was very important indeed that they should have the proper sugar to consume. Such cases as these were ones they should watch carefully.

Mr. J. Allen Williams thought the Inspector was justified in taking up the case in question, or any case in which he thought a thing was sold under a false name. (Hear, hear.) He had no doubt the case referred to would do a great deal of good.

Well, we shall see how things may go.

## Dietetic and Hygienic Notes.

### Report of the Senate Committee on Food Adulteration.

SOME examples of the many adulterations of food products by the substitution or addition of poisonous and unwholesome ingredients, says the *New York Times*, are to be found in the report of the Committee on Manufactures of the United States Senate. The report, which is based on personal investigations of the Committee in different cities of the United States and on the chemical analysis of food stuffs made by Dr. H. W. Wiley, chief chemist of the Agricultural Department, calls special attention to the frauds which are practiced on the poor and the sick, who are the main sufferers from such food.

One of the articles frequently adulterated is condensed milk. Such adulteration, however, is constantly being exposed by the great condensed milk factories of the country, who spend a great deal of time and money in endeavours to prevent the sale of the adulterated product.

Sugar made in this country by factories in the Sugar Trust is of a very high standard, according to the Committee's report, and is entirely free from adulterations such as ground sand, flour, and other materials. Glucose is largely used in the manufacture of all kinds of syrups, and especially of maple syrup, which frequently contains from 20 to 80 per cent. of this adulterant. Glucose, when properly made, is a healthful product. It is also frequently used in adulterating honey. Two quarts of a mixture in a sample jar marked "Honey" were found to contain about an ounce of floating honey-comb on the top of the jar; the rest was glucose.

Extracts of fruits and vanilla are frequently adulterated. Only one manufacturer of extracts was willing to have his factory examined from top to bottom, and samples of his products bought in the open market were among the few which were found to be genuine. The report condemns the general use of alum in the manufacture of baking powder, and recommends that its use in food products be prohibited by law.

Ninety-two breweries of beer, ale and porter in nineteen cities were visited by the Committee, and 400 samples examined. Among these, only two were found containing preservatives. Samples of imported beers contained a much higher per cent. of preservatives, although, according to the report, they do not rank as high as American beers. The report reaches the conclusion that the charge that the use of corn and rice and other cereals in the manufacture of American beer was harmful could not be sustained, and that therefore the exclusive use of malt and barley should

not be required. The same theory is accepted in England, while in Germany the use of corn and rice is prohibited. The use of salicylic or other acids in small quantities as preservatives is not dangerous, according to the report. The Committee, however, recommends legislation to establish a uniform standard by fixing the minimum amount of alcohol, malt extracts, etc., to be used.

Oleomargarin is declared to be a wholesome and nutritious food, and the Committee says that no additional legislation in this respect is necessary.

Candy, which the report calls a natural and proper element of food for children, is greatly adulterated. Large amounts of anilin colours are used for colouring it. This, as well as the use of terra cotta, should be prohibited.

In regard to the adulteration of wines a special bill is proposed. A large amount of the champagne sold in this country is simply wine charged artificially by injection of carbonic acid gas. American champagne, fermented in bottles, is declared to excel the imported article in almost every respect.

Cinnamon, ground pepper, mustard, ginger, and other condiments are frequently adulterated by the addition of peanut shells and cocoanut shells. Although this may not be deleterious of itself, a uniform standard should be set, it is declared, in order that the purchaser may know what he buys.

Only one pure sample of cream of tartar was found among all those examined. The rest was adulterated with alum. By this deception thousands of people eat alum, it is said, who would not knowingly do so.

Large amounts of goods of all kinds are imported and sold in this country which are adulterated, and the sale of which, it is declared, would be prohibited in the countries where they are manufactured. This is particularly true in regard to coffee and beer, and the report proposes that a standard be fixed for such imported articles as a means of protection against their introduction.

\* \* \* \*

### The Dietetic Treatment of Dysentery.

NO DIET which excites peristaltic action of the bowels or acts as a stimulant to the mucous membranes is permissible, says a contributor to the *Hospital Nursing Institute*. The next point is to choose foods which leave little fecal residue. The natives of tropical countries aver that milk is a deadly food for dysenterics. Few natives with dysentery will touch a drop of milk. Native physicians



in India mostly declare that a high death percentage follows a milk diet in this disease. The argument rests on the fact that milk, being so liable to fermentation and decomposition—especially in a tropical country—forms a ready nidus for bacteria and intestinal germs generally.

The writer, with a somewhat wide experience with dysentery, confirms the native belief that milk is very badly borne by dysenteric patients. If given, it should be highly diluted with barley water. Generally speaking, the patient will do better on whey, chicken, or mutton broth. Rice or barley should always be cooked in these broths and carefully strained out. Valentine's meat juice, patent malted milk (not fresh malted milk) are both admirable. Beef-tea extract tends to excite diarrhoea. White of egg, either whipped into broth or shaken up in a bottle of broth or barley-water (like the egg-water for diarrhoea) is excellent. Condensed milk or the prepared peptonised cocoa and milk are both good. Dysentery being often associated with a scorbutic state of the blood, a dessert to a tablespoonful of carefully strained lemon or orange juice may be given daily. Brandy will invariably be prescribed for the patient. The water he drinks is an important point. If distilled water, or a reliable mineral water, cannot be procured, the nurse must superintend the filtering and boiling of the water given to the patient. So often the disease is caused by the water supply, and to continue the polluted drink during the illness is to handicap seriously recovery. Condensed milk flavoured with cinnamon is good. The latter is believed to have a specific action in dysentery. All food should be given tepid. Hot and very cold liquids are too stimulating to the intestines.

\* \* \* \*

#### Rival to Frozen Meat.

FROM Buenos Ayres a trial shipment to this country is being made by the steamer "Southern Cross" of fresh meat preserved by sterilising air in a special chamber.

According to the *Daily Mail* correspondent at Buenos Ayres, the inventor is a German engineer there, and he claims that by means of the sterilised air chamber newly-killed meat, bones, and marrow may be kept perfectly fresh and succulent for an indefinite period.

On May 19th several bullocks and sheep were killed and put into sterilised air produced by the inventor's apparatus, and were duly sealed by the Minister of Agriculture in the presence of a number of well-known gentlemen, including Major Flintoff, of the British Remount Commission.

On June 16th the Minister and witnesses opened the sealed deposit, and found all the meat in as perfect condition as though first slaughtered.

\* \* \* \*

#### The Myriad Products of Coal Tar.

SCIENCE, the wizard of the century, touches with his fairy wand the black, viscid coal tar from the gas retorts and coal becomes not only a source of light and heat, but an arsenal of colours, a buffet of dainty tarts, a medicine chest for suffering humanity, a storehouse of new foods and exquisite perfumes, a source of powerful explosives far war, and so many other miraculous powers than the telling challenges credence.

From the 140 pounds of gas tar in a ton of coal science to-day makes aniline dyes, numbering over 2,000 distinct shades, many of them being of exquisite delicacy, so that vegetable dyes are almost displaced. Of medicines, antiseptic, hypnotic, and fever-allaying preparations, it furnishes antipyrin, acetanilid, asparol, carbolic acid, diuretin, dulcin, euphorin, exalgine, naphtalin, phenacetine, phenol, salol, eulphonal, trional, hylene, and a host of others.

It furnishes perfumes—queen of the meadows, cinnamon, bitter almonds, wintergreen, and thymol. It has given to the world bellite and picrite, two powerful explosives. It supplies flavouring extracts that duplicate the tastes of currants, raspberries, pepper, vanilla, etc. It is the housekeeper's ally, with benzine and naphtha, the insecticides. It supplies the farmer with ammonial

fertilizers. It has given to the photographer two of his developers, hydroquinone and eikonogen. It makes the anatomist its debtor for a most wonderful stain for tissues. It contains the substance which tints the photographer's lens. It yields paraffin, creosote, pitch; material for artificial paving; saccharin, a substance 300 times sweeter than sugar, and saccharin-amide, still sweeter; lampblack, material for red ink, lubricating oils, varnish, rosin, almost our entire supply of ammonia, and hundreds of other things—all these science brings forth from this coal tar.

By means of its product—this waste that surpassed its uselessness only by its offensiveness—we can make preserves without either fruit or sugar, perfumes without flowers, and colouring matter without animal or vegetable aid of any description.

\* \* \* \*

#### Rational Treatment of Obesity.

IN *Therap. Monat.*, February, 1900 (*Mod. Med.*) Kisch takes strong ground against the drug treatment of obesity. He holds that vinegar does not increase the oxidation of fat, but simply produces cachexia from chronic acetic acid poisoning. He holds the same view with reference to the use of iodine and iodides. Pilocarpin is held to be objectionable because of its depressing effect upon the heart, which is very likely to be weak from fatty infiltration or degeneration, and otherwise hampered in its work. Purgatives are condemned because of the malnutrition induced by irritation of the intestinal mucous membrane.

The rational treatment of obesity is to be found in the limitation of food to the patient's actual needs, short, hot sweating baths followed by vigorous cold applications, especially the half-bath, wet-sheet rubbing, and the wet-sheet pack, and subsequent exercise. The exercise should be taken after the cold bath, for the reason that it is undesirable in the majority of cases of obesity to increase oxidation of proteids by elevation of temperature, whether by the hot bath or by exercise, when the latter is done in such a way as to induce elevation of body temperature. Exercise, when sufficiently prolonged and vigorous to elevate the body temperature, by the increased movement of blood and increased absorption of oxygen, is especially likely to produce excessive oxidation of proteids. This is very likely to occur in obese patients, because of the difficulty in eliminating heat through the enormous layer of non-conducting fat with which the body is covered. Hence exercise should be preceded by the cold bath, which makes room for the elevation of temperature by lowering the temperature of the blood a few tenths of a degree. The baths best for this purpose are somewhat prolonged cold applications, such as the rubbing shallow bath for three to five minutes, the immersion bath with friction, and the cold pack. A short hot bath preceding the cold bath not only prepares the patient to receive the cold bath without discomfort, but increases the effect of the latter by dilating the surface vessels, thus bringing a larger quantity of blood under the influence of the water, the temperature of which should be 75 deg. to 65 deg. F.

\* \* \* \*

#### The Sale of Carbolic Acid.

THE *London Gazette* contains an announcement to the effect that the Lords of the Privy Council have approved a resolution passed by the Council of the Pharmaceutical Society of Great Britain declaring that liquid preparations of carbolic acid and its homologues containing more than 3 per cent. of those substances, except any preparation prepared for use as sheepwash or for any other purpose in connection with agriculture or horticulture, and contained in a closed vessel, distinctly labelled with the word "Poisonous," the name and address of the seller, and a notice of the agricultural or horticultural purpose for which the preparation has been prepared, ought to be deemed poisons within the meaning of the Pharmacy Act, 1868, and ought to be deemed poisons in the second part of the Schedule A of the said Pharmacy Act, 1868.



## Official Reports and Notes.

### Adulteration in Essex.

THE percentage of adulteration in Essex last quarter was only 6·5, which is a very satisfactory figure compared with other counties. Out of 457 articles analysed by Mr. T. A. Pooley 29 were adulterated. Milk, as usual, was the most adulterated article. In one case as much as 47 per cent. of added water was detected. Out of 97 samples of butter examined only three were wrong, but a number of samples were suspicious, so it looks as if manufacturers have succeeded in mixing a small proportion of margarine with butter so that some samples escape condemnation. Two coffees contained a large percentage of chicory, tapioca was substituted for sago in two cases, a whisky was slightly below strength, a mustard contained a small quantity of wheaten meal, and a sample of syrup contained as much as 55 per cent. of glucose or starch sugar.

\* \* \* \*

### Adulterated Milk in Salford.

In his report for the quarter ending June 25th, Mr. J. Carter Bell, public analyst, Salford, states that "the percentage of adulteration is much higher than it has been for previous quarters." During the quarter he analysed 194 samples. Of these, 16 were adulterated, "namely, twelve milks, two spirits, one butter, and one green peas. The milks contained from 1 per cent. to 8 per cent. of water, and were robbed of cream from 2 to 20 per cent.

Dr. Tattersall, the Medical Officer of Health, commenting on this report says, "Of twelve samples of milk returned as adulterated, five were from retail dealers in Salford, who were supplied by dealers in Manchester; two were from retail dealers, which have been followed up to the farmers, and three samples from two farmers were procured and found to be adulterated."

\* \* \* \*

### Adulteration at Bradford.

THE City Analyst's report for the past quarter is as follows:—"During the quarter ended the 30th of June, and apart from the Food and Drugs Department, I have made 146 analyses, involving 631 analytical determinations, and have submitted 33 reports. I have also paid 22 visits to works. As analyst under the Food and Drugs Act, I have analysed 102 samples; 5 were adulterated, and 9 were of doubtful quality, inasmuch as they either contained antiseptic substances or small amounts of lead left in during the process of manufacture. Only 3 out of 58 samples of milk were adulterated, and these not seriously. One butter was really only margarine, and one milk contained formalin—an objectionable preservative."

\* \* \* \*

### Food Supervision in the City of London.

DR. SEDGWICK SAUNDERS, Medical Officer of Health for the City of London, reports that on May 25th, 2,880 tins of unsound condensed milk were destroyed at Lett's Wharf, and that on June 16th 2,784 tins were also destroyed. On the 4th and 7th July 1,536 and 3,072 tins were consumed at Lett's Wharf. On the 13th July, 972 tins of boiled rabbit, 816 of lobster, 24 of tomatoes, 22 of oxtail soup, and 24 of pineapples, all of which were unsound, were taken to Lett's Wharf and destroyed. Inspector May dealt with a large quantity of unsound tinned goods, amounting approximately to 11,700 tins, and consisting principally of ox tongues, lobsters, salmon, tomatoes, pineapples, apricots, prawns, and green peas. They were removed at the owners' expense and destroyed. Inspector Simmons condemned over one ton weight of strawberries at the Cannon Street Railway Station, the whole consignment being in a state of fermentation, while a large proportion of the fruit was in an advanced stage of decomposition. At a later date 131 tubs of raspberries were seized at the Holborn Viaduct Railway Station.

During the period under review the meat inspectors have condemned 145 tons 4 cwt. 0 qr. 17 lb. of meat, etc., as unfit for human food. Of this, 8 tons 17 cwt. 1 qr. 9 lb. was diseased, 131 tons 11 cwt. 1 qr. 5 lb. putrid, and 4 tons 15 cwt. 2 qr. 3 lb. from animals that had died from accident. There were 3,411 seizures, in which the attention of the inspectors were called by the salesman in 1,092 cases, or about 32 per cent. The total quantity of meat delivered at the Central Markets, Smithfield, during the month of May was 35,108 tons 12 cwt., of which 79 tons 9 cwt. 1 qr. were seized. The meat received for the corresponding month of last year was 34,421 tons 13 cwt. 3 qrs., of which 60 tons 17 cwt. 1 qr. were seized.

\* \* \* \*

### Stockton and the Food and Drugs Acts.

At a meeting of the Stockton Urban District Council the Sanitary Inspector reported that he had submitted to the public analyst twenty samples for analysis as follows: One lard, five yeast, three butter, three ground ginger, four white pepper—sixteen of which were certified to be genuine. Two samples of sago proved to be made up of tapioca, and two samples of margarine contained boracic acid which was added as a preservative. Pending the report of the Departmental Commission on Preservatives the analyst did not advise further action to be taken. Councillor Atkin (grocer), commenting on the report, said he believed there were scores of shopkeepers in the town who if asked for sago would supply tapioca. There was not one in twenty who could tell the difference between seed tapioca and sago.

\* \* \* \*

### Appointment of Medical Officer for Halifax.

THE Health Committee of the Halifax Corporation have unanimously selected Dr. James Thomas Neech, of Tyldesley, Manchester, for the vacant post of Medical Officer, at a salary of £500. Dr. Neech has been for five years physician to the Leigh Fever Hospital Board, was formerly Medical Officer at Aberdeen, and is the author of several treatises on sewage questions. He is forty years of age, and is L.R.C.P. Ed., L.F.P.S. Glasgow. There were twenty-eight applicants, and the selection was made from two, namely, Dr. Neech and Dr. Rennett, of Aberdeen.

\* \* \* \*

### Thirst Quenchers plus Arsenic.

DR. SEDGWICK SAUNDERS, Medical Officer of Health to the City of London, reports: "The inspectors of food and drugs visited a number of retail chemists' shops in the City with a view to purchasing samples of 'effervescing phosphate of soda,' but in every instance were informed that this particular article was 'not in stock.' In several cases the inspectors were told that it was a proprietary article which they had recently returned to the manufacturers in consequence of a rumour that it contained arsenic. As a matter of precaution, several samples of ordinary phosphate of soda were examined and found free from arsenic."

\* \* \* \*

### Warwickshire and the Food and Drugs Acts.

THE Warwickshire County Council Analyst received during the quarter ending June 30th, 135 samples of food and drugs for analysis. The samples included—butter twenty-three, coffee six, sugar two, pepper two, and one each of margarine, lard, ground ginger, cocoa, olive oil, condensed milk, oatmeal, golden syrup, cheese, and vinegar. One of the samples of butter contained 95 per cent. of fat foreign to that article, while one of the samples of coffee contained 8 per cent. of chicory. All the other articles of grocery were genuine. In the coffee case the vendor was cautioned, and proceedings were taken against the vendor of the adulterated butter, with the result that he was fined £1 and costs.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK ADULTERATION PROSECUTIONS.**—At Birmingham, on July 27th, Albert Lord, Wilton Street, Ashton, was summoned for selling milk deficient of 28 per cent. of natural fat, and containing 17 grains of boric acid. Mr. Tanner defended. Inspector Jones saw defendant, who is in the employ of the Callow Park Dairy Company, putting something into a churn of milk. Jones spoke to Lord, who admitted it was borax. He had no instructions from the firm to act as he did. The milk was deficient of fat. A fine of 10s. and costs was imposed. In connection with this case Thomas G. Graves, farmer, Banner Hill, Kenilworth, was fined £5 and costs for consigning milk to the Callow Park Company which was 24 per cent. deficient in fat. Defendant supplies the Company with milk guaranteed to be pure, and in consequence of the last case Jones took a sample from one of defendant's churns at New Street, and found it deficient of fat. The defendant pleaded that the milk was sent out pure.—Henry Thomas Barnett, Coleshill Street, was fined 20s. and costs for selling milk containing 21 per cent. of added water; and Henry Callow, Lawley Street, 2s. 6d. and costs for selling milk deficient of 22 per cent. of fat. It was stated that defendant's employee had neglected to stir the milk, so that some customers had got more than their share of cream.

At Liverpool, John Corkish, Sterne Street, was fined £5 and costs for selling milk which had been deprived of part of its cream.—Thomas Price, of Penton Street, was ordered to pay £5 and costs for selling milk deprived of cream and adulterated with water.—In the case of Walter B. Searle, of Benton Street, a fine of £10 was imposed.—Sarah Lawson, of Lovat Street, was ordered to pay 15s. costs for having sold milk which had been deprived of part of its cream.—James Cooper, of Whiterock Street, was summoned for refusing to sell a sample of milk to a health inspector. The latter purchased a pint of milk from one mug in defendant's shop. He then asked for a sample from a pail in which were several gills of milk. His request was refused. Mr. Sanders, who prosecuted, said that in all probability the defendant would come before the court later in respect of the sample supplied to the inspector. Mr. Stewart said he would adjourn the case for 21 days, and give his decision when the second summons was heard. Mr. Rudd appeared for the defendant.

At Smethwick, on July 18th, Alfred Gilbert, Shireland Dairy, Waterloo Road, Smethwick, was summoned under the Food and Drugs Act for selling milk from which 14 per cent. of the original fat had been abstracted. Mr. Van Tromp explained that the sample was purchased by one of his assistants in Bearwood Hill from a boy who was selling milk from a trolley on behalf of the defendant, and when the sample was analysed it was found to have had 14 per cent. of cream extracted. He explained that the number of unadulterated samples presented in Smethwick was not so low as it should be. Evidence was given in support of this statement. For the defence, Mr. Lane (Birmingham) pleaded that the defendant had a number of cows, and the milk from each was sold separately. The defendant nor any of his employes had taken any cream from the milk, so that if anybody was at fault it was the cows themselves. (Laughter.) A sample of the milk from each of the cows kept by the defendant had been taken and analysed, and two of them had been found to tally with

that seized. This statement was substantiated in evidence by the defendant and a number of witnesses. Frederick Harris Allcock, analyst, deposed to analysing the samples of eight cows. Two of them gave milk of a poor quality and were almost the same as the sample analysed by the county analyst. In reply to Colonel Wilkinson, Mr. Allcock said that the average of the whole of the samples was of good quality. Colonel Wilkinson said it was quite clear that defendant had his remedy, which was to mix all the milk, as the result would then be an average quality. There was no doubt there had been an offence committed, but only a small fine would be imposed. Mr. Lane asked the Bench to state him a case, and Colonel Wilkinson replied that they would do so. A fine of 10s. and 22s. 6d. costs was inflicted.—A fine of £1 and costs was imposed on Matilda Hayes, 211, Bearwood Road, for selling milk deficient of 25 per cent. of its original fat. Mr. Van Tromp explained that a sample was bought at the shop and also a sample from the man who supplied the milk. The latter proved to be all right, but the analyst certified the other to be deficient of 25 per cent. of its cream.

At Cork, on July 25th, Richard Barry, King Street, was summoned by Sergeant Murphy, acting on behalf of the Local Authority, with having sold milk alleged to be deficient in fat. Mr. B. C. Galvin, who appeared for the Corporation, said he thought there was a slight misapprehension on the part of the defendant, which would make it only fair for him to apply for an adjournment. Mr. Barry appeared before the Public Health Committee the previous evening and made an application to the Committee, but he (Mr. Galvin) did not exactly know what the result of the application was. That morning he got a note from the defendant asking him whether it was necessary for him to attend or not. Unfortunately the note did not reach him in time, and he therefore thought it was only right for him to apply for an adjournment. Sir George Penrose: Is this the case that appeared before the Committee. Mr. Galvin said it was. Sir George Penrose said the objection was that the defendant did not like to appear in Court. The case was adjourned for a week.—Mrs. Ellen Buckley was charged also by Sergeant Murphy, acting on behalf of the Local Authority, with having sold milk deficient in fat to the extent of 11 per cent. Evidence of the purchase having been given, and the certificate of analysis having been produced, the Bench inflicted a fine of 20s. and 10s. cost.—Alexander Moore was summoned by Sergeant William Sharpe, on behalf of the Local Authority, with having, on the 9th of June, sold milk deficient in fat to the extent of 11 per cent. Mr. William Murphy, solicitor defended. Evidence for the prosecution was admitted, but Mr. Murphy stated that defendant had been selling milk in Cork for the last forty-five years, and during that time there had been no prosecution against him. He had always taken the greatest precaution to see that the milk he sold was kept up to the required quality. He came to the conclusion that the condition of the milk in this case was due to the very low temperature and heavy rains of the preceding night. Evidence was given for the defence that the milk was sold as it came from the cow. A fine of 20s. and 10s. costs was imposed.—John McNamara, Hunting Hill, was summoned by Constable Sharpe for a like offence, the milk also having been deficient in fat to the extent of 11 per cent. A fine of 20s. and costs was imposed.—Mr. Richard Barry now appeared, and his case was proceeded with. After evidence the defendant said he got the milk from a Mr. McAuliffe, a most respectable farmer. He tested the milk frequently himself, generally about four times a week, by the only means at his disposal, namely, the glass tube test. On the present occasion he tested the milk, and found it of fair quality. He was twenty years in the



business, and the present was the first prosecution instituted against him. Sir George Penrose, who, on the departure of Mr. Mayne, took the chair, said he was opposed to small fines imposed in other cases, and was so still. He was opposed decidedly to putting on small fines for the purpose of preventing what he called fraud upon the public, namely, obtaining money for goods that were not delivered. He was, however, willing to yield to the decision in the previous cases; but he was of opinion that nothing would put a stop to the inferior milk that was being vended as pure, good, honest milk. The first fine he ever imposed in that Court in these prosecutions was £2, and he then stated the next would be £4, and if £4 did not do that he would make it £10. It was not as a precedent that he imposed a fine in the case of £1 and 10s. costs. If a fine of £10 were put on they would very soon have a change in the milk.

At Bristol, on July 26th, Emily H. Tredwell, of Mivart Street, was summoned for selling a pint of milk which contained not less than 20 per cent. of added water. Mr. Wansbrough appeared for Mrs. Tredwell, and Mr. W. H. Wise (from the Town Clerk's office) prosecuted, stating that Mr. Simpson, the inspector, purchased from Mrs. Tredwell, on July 6th, a pint of milk, and told her at the time not to tell the people from whom she received the milk, the Callow Park Milk Company, as he would come to her shop on the Monday and take a sample of milk as it was delivered to her. Mr. Simpson spoke to purchasing the milk. In reply to Mr. Wansbrough: The defendant had a little refreshment house, and the milk was kept on the counter. He knew nothing against her reputation. Mr. Wansbrough said it was extraordinary how the milk became adulterated, and Mrs. Tredwell wished to give evidence upon her oath that she had sold the milk as she received it. Although the inspector had told her to say nothing of his visit, she had foolishly mentioned to the man who delivered the milk that Mr. Simpson had taken a sample of the milk. This, he submitted, was not the action of anyone who had adulterated the milk she sold. The Bench said there was no doubt the defendant had sold adulterated milk, but under the circumstances and considering her good reputation they would inflict a fine of only 20s. and costs.—William Knight, of Falmouth Road, Horfield, were summoned for selling, on June 18th, milk that contained 14 per cent. of added water. The defendant, who denied watering the milk, was fined 20s. and costs.—Henry Edward Trott, of Meadow Street Farm, Filton, was summoned for selling milk, on June 21st, at Gloucester Road, adulterated with 4 per cent. and 6 per cent. of added water. Mr. Wise prosecuted, and Mr. Taylor (Messrs. Evans and Taylor) represented the defendant, admitting a technical offence. The Bench said that though the percentage of added water was small, they must fine the defendant 20s. and costs in each case.

At Preston, on July 23rd, several summonses under the Food and Drugs Act were heard. The prosecutions in each case were instituted by the Sanitary Department of the Preston Corporation, for whom Mr. G. Oakey appeared. A case in which James Taylor, of Bollard's Farm, Howick, was prosecuted for selling milk in a manner that was prejudicial to the purchaser was heard first, Mr. P. H. Edelston appearing for the defence. Mr. G. Oakey, for the prosecution, said that defendant was summoned for selling milk which had been deprived of a portion of its cream. On June 11th, at twenty minutes to nine o'clock, a Mr. William Sharp, who had received instructions from Inspector Marden, went to a milk cart which was standing in Langton Street and asked the person in charge for a pint of new milk. He supplied the milk, and 1½d. was paid to him. Sharp informed him that the milk had been purchased for the purposes of analysis, and Inspector Marsden came up and divided it into three portions, as required by the Act. One of these portions he left with the purchaser, the second he retained, and a third was forwarded to the public analyst. The analysis showed that the milk contained 2·50 per cent. of fat, and 9·19 of

other solids, making 11·69 total solids. Genuine milk should contain at least three per cent. of cream. Mr. Oakey was proceeding to put in the analyst's certificate, when Mr. Edelston said he should object to this certificate being taken as conclusive evidence. He contended that the analyst, Dr. Campbell Brown, should be called to give evidence. The percentage of fat in the milk was, he held, quite sufficient to meet the ordinary standard set up by authorities. He thought that three per cent. was altogether too high a standard. Mr. Oakey said the analyst was on his holidays, and had left no address. Mr. Edelston said he wished to raise no difficulties. The case might be adjourned, and any date would suit him for the future hearing. The Chairman: Will you take a fortnight? Dr. Pilkington: The analyst will not be back in a fortnight. Mr. Oakey said in the event of the case being adjourned he should request that the third sample at present in the possession of the inspector, be sent to the Government analyst. The Bench adjourned the further hearing of the case to September 12th.—Summonses against Richard Wilson, Dawson Farm, Longton; Edward Forshaw, Hesketh Farm, Howick; and Richard Singleton, of Earl's Farm, Lea, were adjourned to the same date.

MARGARINE AND BUTTER PROSECUTIONS.—At Epsom, Mark Ellis, of Beresford Road, Kingston-on-Thames, was summoned by Mr. Charles John Martin, Inspector of Weights and Measures to the Surrey County Council, for neglecting to register his premises as a wholesale dealer in margarine, as required to do by law. Mr. Martin said the Bench would remember that some time ago a man named Scott, of Worcester Park, had been summoned at that Court for selling to him a substance as butter which turned out to be margarine. The margarine had been sold by him (Scott) by the present defendant, and, it being ascertained that Scott was not registered as a wholesale dealer in margarine, the Clerk to the County Council had instructed him to take action against him for non-registry. This summons was taken out under Section 7, Sub-Section 4, of the Food and Drugs Act, 1899, which provided that every occupier of a factory and every wholesale dealer in margarine or margarine cheese should keep a register showing the quantity and destination of each consignment, and also to register his premises with the local authority and the County Council. Mr. Martin said when he went to defendant he admitted selling margarine to Scott, and he had also sold various other shop owners margarine, but since the prosecution he had given up the sale. Defendant bought it off a man named Palmer at Kingston, and witness found that he had done so regularly, and had been treated as a wholesale dealer by Palmer, who supplied defendant on wholesale terms. Walter George Scott, Cheamside, Worcester Park, said on May 3rd the defendant came to his premises, and he purchased a substance from him which he afterwards sold to the Inspector as butter, and was subsequently prosecuted, as it turned out this substance was margarine. Cross-examined: He believed that the margarine was supplied him in mistake. Defendant said he was not a wholesale dealer, and only sold small quantities. Mr. Rostron asked what steps had been taken to make the regulation known. He was aware everybody was supposed to know the law. Mr. Martin said it had been advertised in the public press, and by circular and bill. Defendant said he had no knowledge of the Act. In reply to the Bench, Scott said he was fined £1, including costs, when summoned. The Inspector said the defendant had been previously fined at Kingston for having in his possession unjust weights. Mr. Rostron said the offence was a somewhat technical one, but defendant would be fined £1 and 13s. costs, and he hoped that he would refund Scott the £1 he had been fined through his (defendant's) action. Defendant said he would do this.

At Worship Street, on July 30th, David and Daniel Jones, trading as Jones Brothers, milk and provision dealers, 93, Columbia Road, answered three summonses, the first charging them with the sale of milk adulterated with 9 per cent. of added water; the second with exposing



a parcel of margarine without the same being labelled, as required; and the third with delivering to a customer margarine in a paper wrapper not bearing a printed announcement, as required. Mr. W. T. Ricketts (Ricketts and Son) defended, and with respect to the milk pleaded that his clients, who had traded for 28 years in the neighbourhood, and never before been summoned, had during the hot weather placed ice in the milk to keep it sweet. A fine of 20s. and 32s. 6d. costs, was imposed in respect of the milk. Proof of the purchase of a quarter of a pound of "butter" at the defendants' shop was given, and an analyst's certificate showing that the article was margarine, containing 93 per cent. of foreign fats. It was stated that a man named Smith, of Dunloe Street, Hackney Road, summoned by the Vestry of Shoreditch for selling margarine as butter, showed that the article was bought at "Jones Brothers," who carried on business in the adjoining parish of Bethnal Green. Why samples were not taken in Bethnal Green was not stated, but the Magistrate expressed the opinion that the Shoreditch official should act. It was now explained that one of the Messrs. Jones was a Vestryman and a member of the Sanitary Committee. — The Magistrate expressed the opinion that that explained the matter. He thought it was an instance of intentional and wicked fraud, and a fine of £20 and £5 5s. costs was imposed.

At Birkenhead, on July 25th, Henry Turtle, 79, Old Chester Road, was summoned on two informations for not having labels on margarine exposed for sale, and for not having the wrappers properly stamped. An assistant in the office of the food and drugs inspector asked for a pound of butter marked "10d," and was served with the substance in a wrapper marked "Margarine" in quarter-inch letters instead of letters of half an inch. The inspector's assistant afterwards purchased a pound of something labelled "1s." which defendant stated was margarine. The latter then called attention to a label on the 10d. stuff, which he said was there the whole time. Everything had been marked, he averred, with a label, but some biscuit boxes had knocked down certain of the label cases. The Bench inflicted a fine of 20s. including costs, in each of the label cases, and 10s. in each of the wrapper cases.

At Birmingham, on July 27th, Henry Munslow, 6, Rea Street, was summoned for failing to comply with the provisions of the Margarine Act. At the instance of Inspector Jones, a woman visited defendant's shop, and asked for half a pound of butter. The substance sold for butter proved on analysis to be margarine. The defendant produced the box from which the substance had been taken, and it contained the words, "Pure butter." He also produced an invoice showing that he had bought it as such. Defendant said he offered the inspector an opportunity of taking a sample from the box whence he had taken the piece from which he had supplied the customer. In answer to Mr. Carter (magistrates' clerk) defendant said he had another box, and the case was ultimately adjourned for fourteen days for a sample of that to be taken. Mr. Naden, who prosecuted, said the authorities were willing to give defendant every assistance in the matter, for they were anxious to know who was really responsible for the frauds on the public.

COFFEE ADULTERATION PROSECUTIONS.—At Birmingham, on July 27th, Edward Sherwood, 338, Cheapside, was summoned for selling as coffee a mixture containing 46 per cent. of chicory. Defendant, who was asked for coffee, pleaded that he supplied the mixture from a tin which bore the words "Coffee and chicory." He was not in the habit of selling coffee by retail, and he only supplied the quarter of a pound complained of in order to oblige the customer. He was making no profit, for he sold it for 3d., and it cost him 1s. per pound. He was fined 20s. and costs.

SPIRIT ADULTERATION PROSECUTION.—At Mansfield Petty Sessions, on July 26th, James Hancock, landlord of

the Star Inn, Commercial Street, Mansfield, was summoned at the instance of William Crabtree, County Council Inspector, for selling whisky below proof. The Inspector stated that a quartern of whisky was purchased from the defendant on the 14th inst., a portion of which was submitted to the public analyst. That official had reported that the spirit was 11·3 degrees below proof. Defendant pleaded that the whisky was up to proof according to his "tester." A fine of £2 was imposed. The Mayor did not adjudicate in this case.

GOLDEN SYRUP PROSECUTION.—At Hyde, William Cooper, Back Lane, was summoned for selling adulterated syrup. Samuel Lee, an Inspector under the Food and Drugs Act, stated that the defendant was charged with selling golden syrup containing 55 per cent. of glucose, a substance derived from starch, whereas golden syrup was made from cane sugar. On the date in question he went into the defendant's shop and asked the defendant if he sold golden syrup, and he replied "Yes, twopence a pound." He purchased one and a half pounds of it, for which he paid threepence. He sent a sample of the syrup to the public analyst, Mr. Marshall, F.I.C., and the latter had sent the portion produced back, stating that it contained 55 per cent. of glucose starch, and had therefore been adulterated. At the time witness purchased the syrup, Mr. Cooper said he had seen many cases of adulterated golden syrup in the *Grocers' Review*, but he (witness) did not receive any notice from him whatever to the extent that he had had a warranty of any description from the firm from whom he obtained the syrup. Defendant was liable to a penalty of £20 for having sold it, and it would be no excuse for him to say that he sold the syrup in the same condition as he had bought it, seeing that he neglected to obtain a warranty. Mr. Brooks, solicitor, Stockport, who appeared on defendant's behalf, said they practically admitted the facts. The defendant purchased the syrup from a wholesale grocer, and asked to be supplied with as good a quality of syrup as possible, for which he paid a good price. He had never had any complaints against him before, and was a well-known tradesman having been in his present premises 32 years. He (Mr. Brooks) was instructed that pure golden syrup could rarely be bought, and would not sell in the market, being too thick and too sweet. There was no intention whatever to defraud. The defendant said that golden syrup was a name given to it by a Scotch refiner 60 years ago. Pure golden syrup was made from cane. If the Inspector went all over the town he could not purchase a pound of pure golden syrup. The Inspector denied the statement, and said that he had purchased it in the town. A fine of 5s. and costs was inflicted.

At Downham Market, on July 30th, George White, grocer, Wretton, was summoned for selling golden syrup containing glucose, which, it was alleged, rendered it injurious as an article of food. The case had been adjourned for the production of proof that the mixture was injurious to health. Mr. Francis Sutton, the County Analyst, detailing the results of his analysis, said he was unable to say that the glucose in the quantity he found in the syrup was injurious to health. The Magistrates accordingly dismissed the case.

BAKING POWDER PROSECUTION.—At Dudley, on July 25th, George Williams, Cross Street, Woodside, was charged under the Food and Drugs Act with selling an article not of the substance and quality demanded. Mr. T. C. Brown (Inspector under the Act) stated that he purchased from defendant three packages of baking powder, one of which he had analysed, in which the analyst found 45 per cent. of alum. Mr. Vernon (Oldbury), who defended, cited a recent decision of Justice Darling, from which he held that the Inspector ought to have sub-divided the packet and not the entire purchase. When an article was too small to be sub-divided it did not come under the Act. The case was dismissed.



**PEPPER AND SPICE PROSECUTIONS.**—At Liverpool, on July 25th, Allen Ratcliffe, of 164, Walton Road, was summoned for selling pepper not of the quality and strength demanded. An analysis of the pepper, which a Food and Drugs Inspector purchased at defendant's shop, showed that it contained not less than five per cent. of bleached pepper husks. Defendant said he bought the pepper as being pure, but he had no written warranty. He was fined 40s. and costs, Mr. Stewart advising him to obtain a warranty in future.—A case against Albert Ferguson, of Oversbury Street, which had been adjourned for the purpose of sending a sample of mixed spice to Somerset House for analysis, was next proceeded with. It was stated on behalf of the prosecution that the report from Somerset House confirmed the presence of an excessive quantity of sand in the sample, but there was no evidence of the presence of spent ginger. Mr. Collingwood Williams, B.Sc., Liverpool city analyst, stated that it was impossible from a chemical point of view to ascertain whether there was spent ginger in mixed spice, but by microscopical examination of the sample in question he was of opinion that it contained 20 per cent. of spent ginger. Mr. Rudd, on behalf of defendant, contended that inasmuch as the Somerset House analysts had failed to find evidence of the presence of exhausted ginger in the sample, defendant was entitled to a dismissal. Mr. Stewart thought the justice of the case would be met by the payment of costs, and ordered defendant to pay the costs, 20s. Mr. Sanders prosecuted.

**MERCURY OINTMENT PROSECUTIONS.**—Is the "B.P." the legal standard?—Two summonses against Keighley chemists, issued by Mr. A. Randerson, County Council District Inspector under the Food and Drugs Act, were heard at the Keighley Borough Court on July 23rd. In each case the summons was for selling 2 oz. of mercury ointment which was not of the nature, substance and quality required by the British Pharmacopœia. A similar case against Taylor's Drug Company was recently heard at Skipton, and the Justices there convicted, and an appeal against that decision is now pending. Mr. Lloyd Parry, assistant solicitor to the West Riding County Council, appeared in support of the informations.

The first case taken was one against Arthur Noble Kershaw, chemist, Corn Mill Bridge. Mr. W. Dewhirst defended. On the 9th June Mr. Randerson sent a deputy (Christopher C. Maudsley, of Skipton) to Mr. Kershaw's shop to purchase 2 oz. of mercury ointment. Maudsley was served by a youth in charge, Walter Sidebotham, an "improver," and on analysis the sample was found to contain 20 per cent. of mercury and 80 per cent. of lard and suet, while the proportion of the drug required by the Pharmacopœia was 48 per cent.

Mr. Lloyd Parry submitted that a decision of the High Court had fixed the B.P. as the standard in these matters.

In reply to Mr. Dewhirst, the witness Maudsley said he did not state that he wanted mercury ointment according to the B.P. standard. He purchased at four shops, and three of the persons who supplied him were summoned that day. There was some difficulty at one shop in getting to know what he wanted; they asked him what kind of mercury ointment he required.

Mr. Dewhirst asked if the fourth vendor was not summoned because he put a label on the package; but Mr. Parry objected to the question.

Mr. Dewhirst (to the witness Maudsley): Don't you think it would have been more honest to the youth at Mr. Kershaw's shop if you had said what strength of ointment you wanted?

Witness: That was not my business.

Mr. Randerson, in his evidence, said there was only one recognised strength, and that was the one laid down in the Pharmacopœia. It was not necessary for him to tell a chemist when asking for an article that he wanted it according to the B.P. He said that on the authority of

the Queen's Bench Division of the High Court. He stated that at some of the shops he visited he was supplied with ointment of the B.P. strength, and that without mentioning the B.P. A few days afterwards he received from Mr. Kershaw a letter admitting that a mercury ointment of weaker strength than the B.P. standard had been supplied in mistake, and enclosing a stamped telegraph form to be sent to the analyst to stop the analysis. In the letter, Mr. Kershaw stated that "blue" or "trooper's" ointment had been supplied.

Mr. Dewhirst: You did not get one sample of mercury ointment according to the B.P. standard at Keighley, I think?

Mr. Randerson: Yes; I did.

Alderman Foulds expressed the opinion that the inspector ought to mention that he wanted mercury ointment of the B.P. strength, or it was like trying to entrap shopkeepers.

Mr. Randerson answered that he acted according to instructions, and he contended that when a person asked for a drug it was incumbent on the vendor to supply it according to the B.P. He admitted that mercury ointment was very seldom asked for by the general public, except under medical direction; "blue" ointment was the common name.

Mr. Dewhirst, for the defence, contended that the British Pharmacopœia was not binding on retail chemists, and that to follow it in all cases would be detrimental to the public. In mercurial preparations such a strength as 48 per cent. was never sold to the general public, except under medical authority; chemists of long experience had never even had it asked for. What was generally sold was a preparation known as "blue" or "trooper's" ointment, which contained 20 per cent. of mercury, and that was the article supplied in this instance. He produced an old edition of the B.P., which gave 20 per cent. of mercury as the proportion for the compound; but Mr. Parry held that all old editions of the B.P. were superseded by the present issue.

Mr. Kershaw, the defendant, said that during an experience of twenty-seven years he had never been asked for the ointment according to the British Pharmacopœia. He would not take the responsibility of supplying ointment containing 48 per cent. of mercury unless he knew the purpose for which it was to be used, or unless he had medical warrant for it. Indiscriminate sale, he considered, would be dangerous and harmful. Retail chemists did not follow the standard of the B.P. in compounding these powerful drugs for ordinary customers.

The Bench thought that a technical offence had been committed and imposed a fine of 1s. and allowed Court costs only (with 2s. 6d. for one witness's fee).

In the second case the defendant was Arthur Shires Dean, chemist, Low Street. The circumstances were the same as in the previous action, except that, although the ointment was served by an assistant, Mr. Dean himself was also behind the counter. When Mr. Randerson afterwards went into the shop and said that his deputy had purchased the article for analysis, Mr. Dean remarked "My assistant has given you the wrong stuff, Mr. Randerson—it should have been the B.P. preparation."

Defendant's assistant, who gave evidence, said that customers asked for "trooper's ointment" or "blue butter" (laughter). During his two years' service he had never been asked for mercury ointment.

Mr. Parry, commenting upon the defendant's absence, said there was a dangerous custom of throwing the onus of these "mistakes" upon the assistants; he thought that in the interests of the public the managers themselves should be held responsible. The Food and Drugs Act was not a punitive, but a protective Act.

The Mayor said the Bench were fully alive to the fact that the public should be protected. They thought this was an exactly similar case to the last, and a like penalty would be imposed.



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## Food and Sanitation.

SATURDAY, AUGUST 18, 1900.

### Disinfecting Bedding in Hotels and Filtered Water.

THE Paris correspondent of *The Caterer* says:—

“One of the most curious advertisements emanating from a hotel proprietor which I have yet seen is the advertisement appearing on the front page of *Le Figaro*, at 32s. a line, from the Elysée Palace Hotel, in which the proprietor announces that as soon as any bed is vacated in his hotel the bedding is immediately disinfected at enormous heat in a special disinfecting stove. He also announces that the water used for baths and for toilet purposes is carefully filtered before supply.”

To our thinking this hotel proprietor is wise in his generation, and were our London swagger hotels to adopt the same system they would invite the confidence of the public far more than they now do.

The victims of damp beds are legion, and that much disease is spread by our happy-go-lucky system is very certain, the managers of our enormous caravanseries never troubling themselves about the habits and health of the thousands who spend a night or two in their beds so long as their money is freely paid. There must be a great many persons afflicted with loathsome and infectious diseases who use the bedrooms, and at present the only safeguard the visitor succeeding such a person has is the reliance placed upon the chambermaid who may be slovenly or careful, and is virtually the guardian of the visitors' health.

The Elysée Palace Hotel proprietor apparently wishes his patrons to take no risks, neither by damp beds nor by infection. Nay, he goes farther—he knows that Paris water, like London water, is semi-filtered sewage and drainage, and is so enlightened a sanitarian that he thinks of his visitors' health even before their pockets. We think the English large hotel which put a Pasteur-Chamberland Filter in each bedroom, thus guaranteeing the visitors germ-free water, and had a disinfective stove for bedding, would speedily find the thoughtfulness pay. The travelling public are not slow to appreciate such things.

### Boric Acid as a Preservative.

IN the House of Commons on July 26th, Mr. Lambert asked the President of the Local Government Board if he could state when the Departmental Committee on the use of preservatives in food might be expected to report; whether he was aware that summonses were being now issued by local authorities for adding to Devonshire clotted cream a small quantity of boric acid solely as a preservative: And, whether he would communicate to such local authorities the undesirability of proceeding with prosecutions on this point until the Report of the Departmental Committee had been issued. Mr. Chaplin replied that some delay had been occasioned from a series of experiments, the issue of which could not be known for some months yet, but it was expected that the Committee would be able to present their report by the end of the year. He understood that some local authorities had instituted proceedings in cases such as were referred to in the question, but the Local Government Board had no authority to prevent such proceedings being taken, and could not undertake to interfere with the discretion of the local authorities in the matter. On Friday, July 27th, Mr. Lambert asked the Attorney-General whether, as a Departmental Committee was now scientifically investigating the question of adding preservatives to food, and would report by the end of the year, he would send an intimation to all judicial authorities before whom any cases of adding preservatives to Devonshire cream might be brought, that it would be expedient to adjourn the proceedings until after the Departmental Committee had given its decision. The Attorney-General replied that he had no authority to interfere with the discretion of judicial authorities in the way suggested in the question, and it would be most improper for him to attempt to do so.



## Dietetic and Hygienic Notes.

### New Margarine Law in Belgium.

THE date on which this law comes into force will not be later than January 1st next, and it enacts that :—

The term butter is reserved for fat obtained from milk or cream by churning, with or without the addition of ferments, colouring matters, or salts. Other alimentary fats resembling butter in their external characters, such as appearance, consistency, colour, odour, taste, are termed margarine.

Mixtures of butter and margarine for sale are prohibited. Margarine for sale may not contain more than 10 per cent. of fat derived from milk. It must be mixed with substances which, while being inoffensive and incapable of altering its organoleptic characters, will facilitate its distinction from butter. Particulars of these substances will be given later in a Royal decree.

Produce destined for direct export is exempted from these provisions if declared prior to manufacture.

Margarine must be delivered from a manufactory or wholesale dealer in vessels bearing the word "margarine" on every face, in letters at least four-fifths of an inch high, with the name and address of the firm.

Butter and margarine may not be sold on the same premises; and butter merchants or producers may not keep margarine, even for their personal consumption, on premises where butter is sold.

All shops where margarine is sold, as well as vehicles serving for peddling margarine, must bear the words "Sale of margarine" in distinct type at least eight inches high, and clear of all other inscriptions. In market places margarine may only be sold at spots specifically indicated by the communal authority, and at least twenty-five yards from any butter stall.

All vessels or wrappers in which margarine is sold must have the word "margarine" in letters distinctly visible to the public, at least four-fifths of an inch high, and clear of all other matters; as well as the name and address of the seller. If sold in blocks these must be cubical in shape and marked in a similar manner.

Abnormal butter, *i.e.*, butter of which the characteristics differ from those of most pure butter, without exhibiting clearly adulteration or serious alteration, may not be sold. A Royal decree will specify the physical and chemical indications by which these characters may be recognised.

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### The Dangers of Ice Cream.

WITH the advent of the hot weather comes the danger of indulgence in ice cream. Mr. A. H. Head, correspondent to the East Lambeth division of Board Schools, has, in accordance with instructions from his managers, notified local authorities of the necessity of keeping a watchful eye on the vendors of ice cream in South London.

In his communication he alleges that a considerable amount of sickness among school children was attributable to the eating of ice cream sold in the streets that is of very doubtful manufacture.

As the manufacture of ice cream, as sold in the streets, is practically confined to two districts in London—namely, Saffron Hill and Walworth—a London *Express* reporter has thoroughly investigated the allegations made by Mr. Head on behalf of the East Lambeth school managers.

He was fortunate in being accorded the assistance of Dr. Millson, Medical Officer of Health for Newington Vestry, in his investigation.

Under the latter's wing, as it were, he scoured the purlieus of Walworth, and visited several houses in the growing Italian colony that radiates from Wooler Street.

The horrible, unspeakable fifth that permeates the district is simply appalling. The writer fancied he had previously seen the worst London slum; but nothing in London is comparable with the awfully dilapidated property in this district, which belongs, strange to say, to the Ecclesiastical Commissioners.

The doctor led the way direct to the rear of the first house we visited. The yard measured some 10ft. by 14ft. Immediately contiguous to the open door of the water-closet was exposed a couple of gallons of the ingredients of ice cream. There is no exaggeration in saying that the natural milky colour had become khaki from the thick layer of dust and refuse that covered it. To the upper right hand side of the yard lay nearly a cartload of house refuse, while to the left was a pigeon house.

This was the worst and most unsanitary case. But all of them are horrible.

In the next house we found the yard comparatively clean, but as we went in the inhabitants went out and disappeared. After some time a half-dressed male came in. He knew the doctor. The latter, after considerable effort, induced him to show what ice cream was in course of manufacture.

To my consternation he took a filthy, mud-laden bag off a wooden utensil, in which were the necessary ingredients. The coat of dirt that rested on this was absolutely nauseating to look on.

These facts I can vouch for as being typical of the surroundings in which ice cream is manufactured. But my experience of the ingredients makes the stuff more abhorrent and dangerous. I saw a basket of eggs, which I was informed was to be utilised as the principle adjunct for to-morrow's supply.

I ordered the landlady—she thought I was an official—to break a dozen of the eggs, for which I would remunerate her. Seven of the twelve were in the last stage of rottenness.

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### The Treatment of Chronic Constipation of Infants by Butter.

DOERFLER (*Muenchener medicinische Wochenschrift*) believes that the cause of the constipation so frequently observed in artificially nurtured infants is due to the excessive dilution of the milk with barley water, whey, and similar liquids. He has found that the addition of fresh and unadulterated butter is the best means of preventing the constipation. It increases considerably the nutrient quality of the food without causing irritation; it gently stimulates the sluggish bowels, and, by facilitating the propulsion of the chyme, promotes the removal *per vias naturales* of any excess of food material that may be present. The amount to be given needs careful regulating, and should be, in the beginning at least, under the control of the physician. To obtain the desired results, it is necessary that the butter be absolutely fresh and without admixture of any sort, because its beneficial effects are lost if chemical changes are allowed to take place through melting or heating.

During the first month of its existence, when the constipation is generally slight, the infant may be treated by enemata until it has become apparent that the intestinal tract has accustomed itself to artificial feeding. During the second and third months one-half to one teaspoonful of butter should be given morning and evening until a normal evacuation occurs, after which the same dose may be given



every second day. During the succeeding two months the amount is increased to two or three teaspoonfuls, and is given to the same intervals as during the preceding period. From the fifth month up to one year from one to three teaspoonfuls are given every two or three days for some time.

The experience of Wirschillo, an account of which is given in *Wratch*, a Russian medical periodical, is of considerable interest in this connection. The experiments undertaken by this author to determine the influence of sweet butter upon the secretion of the gastric juice in children have shown that, while it diminishes somewhat the amount of hydrochloric acid and pepsin in the stomach, it promotes the peptonization of albumins. He proposes the substitution of larger doses of butter, which in no wise affects digestion unfavourably, for cod-liver oil in the treatment of children.

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#### Adulteration in the Olden Time.

ADULTERATION, we are somewhat apt to think, is a trick of only recent origin. As a matter of fact, however,

even in the so-called good old days, there was trickery in trade, and the smart shopkeeper had no compunction about getting the better of his customers. I read, for instance, in the minute books of the vestry of St. John the Baptist, Walbrook, that in the year 1801 it was found necessary to pass the following resolution, viz. :—

“Resolved, that it is the opinion of this vestry that the course and adulterated bread, to which the poor and generality of persons are reduced, is very unwholesome, and that independent of the ill-effects common to all restrictions, a considerable expense is entailed on the parish for medical assistance, disabling the poor from their vocations by which the poor rates are become insufferably burdensome and difficult to collect, are cruelly increased and threaten to reduce the housekeepers themselves to pauperism.”

The language is a little involved, perhaps, but the meaning expressed is clear enough. What, one may ask, were the Bakers' Company doing to allow adulteration to be practised to such a serious extent?—*City Press*.

## Cold Storage Notes.

### Cold Storage and Ice Making in Cork.

THE Cork Warehousing, Cold Storage and Pure Ice Company, Ltd., are to be complimented upon the success of their enterprise. This Company was formed to supply which was felt to be a pressing want in Cork, viz., public cold storage for butter, meat, poultry, and other perishable goods, and to manufacture pure ice, the demand for which, for various purposes, is steadily increasing. Also to provide warehousing accommodation for goods of various kinds, such as grain, flour, etc., and to issue warrants for same negotiable at banks. The growth of refrigeration and ice manufacture of late years has been something marvellous, and we are glad, says the *Cork Constitution*, that Cork is no longer behind other cities in providing what may be regarded as one of the necessities of modern civilization. The Company's premises in Beasley Street, off South Mall, were designed by Mr. Robert Walker, C.E., and the work carried out under his supervision. Your representative visited them and was conducted over the premises by Mr. Warriner, manager and engineer-in-chief, who explained very fully all details of the work. The plant consists of three of J. and E. Hall's No. 10 patent horizontal carbonic anhydride refrigerating machines; each of these machines is driven by a 20 h-p. electric motor. Condensing water is obtained from two wells sunk on the premises, and is raised by an “Invincible” centrifugal pump, driven by a 7½ h-p. motor. At the northern end of the engine room is the ice tank, which produces 6 tons of pure ice in 24 hours; over it is a travelling crane which lifts the ice, this is worked by a 2 h-p. motor. A machine called an “Agitator” is constantly injecting air into the water during the freezing process, this is worked by a 1 h-p. motor. On the top floor of the cold stores is the cooler, in which a fan works, driven by a 10 h-p. motor, and the lift by which goods are taken from floor to floor is worked by a 7½ h-p. motor. The cold chambers are five in number, and contain 40,000 cubic feet of space. They are very perfectly insulated. The largest of these chambers is specially reserved for butter put in for long storage, and is kept at a lower temperature than the others. Another chamber is set apart for storage of meat, poultry, and game, and the remaining three are devoted mainly to the cooling of butter. Butter merchants, creamery proprietors, and others, very highly appreciate the advantage of having their butter shipped in splendid condition in the hottest weather; this advantage will now be maintained up to

time of arrival in England by availing of the steamers of the C.C.S.P. Co., which have recently been fitted with refrigerating plants. Large quantities of meat are stored, especially on Saturday evenings in summer, and so much loss of valuable food is prevented. The system in use is the dry air system, which experience has proved to be the best. In the refrigerating machines intense cold is produced by the evaporation of previously condensed carbonic anhydride, which passing through the evaporator, cools the brine by which it is surrounded to a very low temperature; this brine is pumped up to the cooler where it passes through many hundred feet of piping in the form of grids which are constantly coated with frost; the air of the cooler is blown by the fan through wooden ducts into the chambers, return ducts bring back the air from the chambers to the cooler, and so the circulation goes on, the brine constantly returning to the machine to be re-cooled and pumped up again, and the air from the cooler to the chambers and back. Another machine at the same time keeps up circulation of cold brine to the ice tank, this flowing round the pails which are immersed in it freezes the water in them into solid ice in 24 hours. The water used in making ice is the city drinking water filtered through one of “Cheavin's Self-Acting Cistern Filters.” The ice produced is extremely clear, and of a high degree of purity, as shown by the certificate of the City and County Analyst, which says—“The ice made from the water is fit for drinking purposes, and it may be used medicinally.” Another excellent quality in this ice to which our attention was directed is its extreme hardness and density, which causes it to melt very slowly; the manager informed us that they had many unsolicited testimonials from those who had used it, as to its superior keeping properties. When being sent out, whole blocks of one cwt. are encased in a very stout jute bag specially made for the purpose, which exactly fits the block and makes a very handy package. When packed on a car or in a railway waggon, fitting close together as they do, there is not so much waste by melting as would take place with blocks of irregular size and shape. Some buyers prefer crushed ice, this is packed in barrels containing about 2½ cwt. each, being first crushed in a machine kept for that purpose. The premises are lighted throughout by electricity. The Cold Storage Company have an arrangement with the shipping and railway companies, under which persons forwarding butter to inland stations at through rates to Great Britain can allow it to remain in the cold stores for a time, without losing the benefit of the through rate.



## Official Reports and Notes.

### Notts County Council and the Food and Drugs Acts.

DURING the past quarter the Inspectors have stamped 1,877 weighing machines, 3,397 weights and 1,159 measures, and had adjusted 2,786 weights and measures. They have received £32 12s. for stamping and £15 15s. 2d. for adjusting, making a total of £48 7s. 2d., as against £59 1s. 5d. for the corresponding quarter last year. The County Analyst has reported that during the past quarter he has analysed 50 samples under the Food and Drugs Act. The samples were as follows :—Milk, 28 samples ; butter, 11 ; spirits, 7 ; sweet nitre, 2 ; margarine, 1 ; yeast, 1 ; total, 50. With the exception of 2 samples of spirits, which contained respectively 3 per cent. and 11·3 per cent. more water than is permitted by the Sale of Food and Drugs Amendment Act, the samples were genuine. These results are very satisfactory. The analyst states that adulterated milk or butter is now but rarely met with in this county, and the quality and strength of spirits, which in former years left much to be desired, have improved most markedly owing to the attention given to these articles by the Inspectors under the Act.

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### Adulteration in Liverpool.

THE annual report of the Medical Officer of Health for Liverpool states that the samples taken for analysis numbered 1,522, of which 165 were adulterated, as compared with 1,233 and 143 respectively in the preceding year. The number of informations was : 1898, 87—1899, 110 ; persons fined : 1898, 81—1899, 90 ; acquitted or withdrawn, 1898, 6—1899, 20. The amount of fines and costs was—1898, £186 4s. ; 1899, £250 7s. The amount of fines for offences under the Sale of Food and Drugs Act has considerably increased during the past twelve months as compared with the preceding twelve months, but the number of samples taken also shows a considerable increase.

#### PRESERVATIVES AND COLOURING MATTERS.

The report contains the following :—The importance of avoiding waste in regard to foodstuffs of any kind does not need to be emphasised, but it is of greater importance to ensure that the means taken to prevent waste are not calculated to injure health. The preservation of meat, and other perishable foods, by means of cold is, as is well known, largely resorted to in this country. The successful application of cold as a preservative receives its best illustration in the case of the Copenhagen milk supply, into the details of which it is not now necessary to enter. In this country the use of chemical preservatives is exceedingly common, and in the case of some very perishable articles, such as milk and cream, it is to be feared, takes the place of care and cleanliness. It is established beyond dispute that chemical preservatives, whilst checking putrefactive changes in the food, may also check the fermentative processes of digestion. Boracic acid or borate, as a preservative, is found in margarine, butter, ham, bacon, pork, fish, cream, and milk. In margarine and butter the use of it has been common for many years ; it is usually more or less uniformly mixed with these articles, and about thirty grains to the pound have been found. It is also met with in sausages, pork pies, and pastry. Salicylic acid and salicylates are met with in jam, but the manufacturers appear to be *bona fide* anxious to minimise the quantity ; in the case of British wines, however, as well as in the case of some unfermented drinks, sometimes both boracic acid and salicylic acid have been found, and there are not evidences of the same care on the part of the manufacturers to limit the amount, the quantity varying from 7 grains to 150 grains of salicylic

acid to the gallon, and 4 grains to 100 grains of boracic acid to the gallon. It is perfectly plain that if it is absolutely necessary to add either of these drugs, and if 7 grains to the gallon is enough in one case, there is no necessity to throw in 150 grains to the gallon in another case.

#### COLOURING MATTERS.

Colouring matters seem to have two distinct uses in foods—in the one case merely to give an attractive appearance to an article, but without imitating any other article ; and in the other case it is added to increase the resemblance of the article to that which it is intended to simulate. The commonest colouring matter, which is usually used for sausages, especially German sausages, consists of a mixture of borax, red coal-tar dye of the class known as sulphonated diazole, with a little salt or saltpetre, and sometimes ground rice or breadcrumbs mixed with it. Armenian bole consists of oxide of iron with a siliceous matter. The use of these colouring matters by no means necessarily implies fraudulent intent—purchasers might be supposed to know that no natural food-stuff could have the remarkable colour of some German sausages ; but there is another colouring matter which might, without injustice, be suspected of bordering upon the fraudulent, that is “Smokene.” This is a mixture of borax, salt, creosote, and red coal-tar dye, which is used for brushing over hams, bacon, tongue, fish, etc., and which gives the article the appearance of having been perfectly and carefully smoked, the operation, like the name, being very ingenious. Amongst other common fraudulent colourings may be mentioned the use of burnt sugar with dilute acetic acid to resemble vinegar, and the use of glucose with a very common black treacle to imitate the brightness of golden syrup. The dirt or staleness of goods may be concealed by colouring matters, as, for example, dirty rice, used to make egg powders, coloured with a yellow coal-tar dye which takes away the dirty appearance ; similarly, stale milk coloured with a slightly yellow dye gets a richer look. With regard to egg powders, which in reality are merely baking powders, these are coloured yellow and labelled “each packet equivalent to one egg.” Cases have actually come under notice in which the purchaser has believed that the packet did actually contain the equivalent in food of a desiccated egg ; possible the yellow colour completed the delusion. It does not appear that the Food and Drugs Act, which is essentially framed on commercial lines, discountenances the use of colouring matters and preservatives, unless it can be proved that such ingredients are injurious to health. Every person adding any colouring matter or preservative whatever to articles of food should state on a plain, simple, and conspicuous label :—

1. The material used.
2. The quantity used.
3. The date at which the material was added.

A form of label for supplying this information might be suggested.

Heat and cold as preservatives are exceedingly common and many articles are now sold as sterile. An article sold as sterile ought certainly to be sterile ; if it is not it possesses the disadvantage of giving a false sense of security to the purchaser. But the sterility should not be secured by using chemicals.

#### PRESERVATIVES AND COLD.

Last year chemical preservatives were substituted for cold to a very great extent in the case of imported pork. This pork is packed in small boxes of 50 lbs. each, which are placed in a refrigerator on board ship with other “chilled” meat, and kept at a temperature of 32 or 35 to 38 degrees. Previous to packing it is treated in some way



with boracic acid, which finds its way into the flesh. The reason for putting it in is to check accidental decomposition, which would result from any defect in the cooling process. If pork is frozen it spoils the appearance and deteriorates the value, hence it can only be "chilled."

#### BACTERIOLOGICAL EXAMINATIONS AND ANALYSES.

The work of the bacteriologist comprises:—(a) Examination of food stuffs of various kinds; (b) Regular examination of water supplied to the City; (c) Examinations into suspected cases of rabies, anthrax, glanders, etc.; (d) Examination for diagnostic purposes in suspected cases of diphtheria, typhoid fever, tubercular sputum, etc.; (e) Special investigations. Amongst the more important special investigations during the year have been the following:—*Preservatives in Food.*—In view of the increasing use of preservatives of various kinds in food stuffs, and the difficulty which has been experienced in proving in courts of law the limit beyond which it was dangerous to extend their use, the Medical Officer requested Professor Boyce to undertake some exact experiments into the physiological

#### ACTION OF BORACIC ACID AND FORMALIN,

as these, especially the latter, were found in foods likely to be used for infants and young children. The examination consisted in feeding kittens of three weeks old upon milk containing minute but definite proportions of the preservatives in question, and the observations extended in each case over a period of from six to seven weeks. With regard to the boracic acid, (a) Five kittens were fed upon milk containing ten grains to the pint. (b) Five kittens were fed upon milk containing five grains to the pint. (c) Five kittens were fed upon perfectly pure milk, the kind of food being the only difference in the treatment of the animals. In every case a supply of milk was always available for the kittens to lap. Results:—The group (a), fed with ten grains of boracic acid to the pint, showed rapid emaciation, diarrhoea, and death resulted in from three to four weeks; the kittens treated with five grains showed results almost similar. The remaining five kittens fed with pure milk increased in weight and remained healthy. With regard to the second series of milk, viz., that treated with formalin, the proportions of formalin, which is a very powerful antiseptic, were used as follows:—Five kittens were fed with milk containing 1 part in 50,000 of milk, five with 1 in 25,000

of milk, and five with 1 in 12,500. As in the preceding cases, there was a continuous supply for the kittens to lap. Four kittens were fed at the same time with wholesome milk. The results showed (a) the five kittens fed with the weakest solution (1 in 50,000) showed an average increase of weight per week equal only to 70 per cent. of the healthily fed kittens; those fed with the next strongest solution (b) (1 in 25,000) increased in weight only to 55 per cent. of that of the healthily fed kittens. (c) Those animals fed with the proportion containing the largest amount of formalin, namely, 1 in 12,500, increased in weight only from 20 to 25 per cent. of the amount which the healthily fed kittens increased. Two of the number died after six weeks, suffering from emaciation, diarrhoea, and other evidences of disturbed digestion and starvation. The whole of the animals were kept under careful observation, and it appeared that the dosed animals showed general evidences of ill-health, inactivity and so on, and a disinclination to feed on the preserved milks. There is not the slightest reason to doubt that the use for infants of milk or cream containing these preservatives will have precisely the same effects upon the infants as they have upon kittens, and the inquiry once more emphasises the absolute necessity for feeding infants as nature intended they should be fed, or if that is impracticable, to employ pure and natural substitutes.

#### PRESERVED MILKS, CHEESE, BUTTER, AND MARGARINE.

As in the previous year the condensed tinned milks are not always found to be sterile, or free from organisms. This form of milk ought always to be sterile; if it is not, it has no advantage over raw milk from a bacteriological point of view, and it may be the means of distributing pathogenic germs. A large number of samples of jams, etc., have been examined and no pathogenic bacteria found. A very considerable number of the jams are sterile, a condition which is very satisfactory, the result of careful preparation. But the use of preservatives for this purpose, by lessening digestibility, lessens or destroys the nutritious properties of the food. A considerable proportion of the potted meats were found to be sterile; those which were not, with a single exception, contained no objectionable organism. Tinned meats ought to be sterile in every case, otherwise they may become a serious source of danger, owing to slow fermentation taking place in the contents of the tin and leading to the production of poisonous products.

## Weights and Measures Notes.

### County Council Official Fined.

At Spalding Police Court, on July 31st, Harold Massey, Inspector of Weights and Measures to the Holland County Council, was summoned by the police for being drunk in charge of a horse and trap. The charge was denied, but evidence was given that when coming into Spalding and crossing Fulney Bridge the defendant ran into a lady cyclist (Mrs. England, wife of Dr. England, of Moulton), who was going in the opposite direction. The cyclist was on the proper side of the road, but was crushed between the side of the bridge and the trap, and it was at first thought her ribs were broken, but fortunately her injuries were not serious. The cycle was also damaged. The defendant, who it was proved, was in an intoxicated condition, failed to pull off. He alleged that he endeavoured to avoid the cyclist, who hesitated which side to pass. The Court put on a fine of 20s. and 22s. 6d. costs.

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### New Assistant for Cardiff.

OUT of 58 applications, Mr. James J. Lalor, Inspector under the Sussex County Council, was appointed assistant inspector of weights and measures for Cardiff at a salary of £2 a week, to be increased to £2 5s. Mr. Lalor was

formerly attached to the Royal Irish Constabulary in a similar position. He was the only certificated candidate applicants.

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### Prosecutions at Birmingham.

At Birmingham, on July 27th, Ralph Lambert, general dealer, Bartholomew Street, was fined 10s. and costs for having a pound weight in his possession which was three drams wrong. He was also fined a similar amount in two other cases, a 2 lb. weight being half an ounce inaccurate, and a 4 lb. weight one ounce.—Frederick Baker, trading as George Baker, Cecil Street, was fined 20s. and costs for having a 14 lb. weight in his possession which was 2½ oz. out.—Edgar Canning, chemist and drysalter, was fined 20s. and costs for having a weighing machine with a draught of 1 lb. 4oz. in 28 lb. against the purchaser.—David Smith, 74, Snow Hill, was fined 40s. and costs for having a 4 lb. iron weight which was 2 oz. and 10 drams short in his possession on the 25th June.—Boots (Limited), chemists, 10, Snow Hill, were fined 10s. and costs for having a 14 lb. iron bar weight which was unjust to the extent of 10½ oz. on the 21st ult. It was stated in defence that the weight was never used, and the manager said it must have been on the premises when they took them.



## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK PROSECUTIONS.**—Several important prosecutions instituted by the County Council for the use of boracic acid as a preservative of milk were heard at the Chorley Petty Sessions. The first case was against Roger Anderton, farmer, of Maudesley, and his son, Thomas Anderton. Mr. Wilson prosecuted, and he stated that it was necessary to check what was a growing practice of farmers by using boracic acid as a preservative of milk, which was likely to prove injurious to infants using it. This had been proved by physiological tests. Mr. W. Collingwood, county analyst, stated that he found in a sample of milk bought from Anderton, that it contained no less than six grains of boracic acid to the pint, and it had been proved that five grains had caused distinct injury to a child. Dr. Sargeant, county medical officer, stated that the acid interfered with digestion. The defendant said that he only used a teaspoonful to twelve gallons of milk, but he admitted that his son might have made a mistake. As this was the first case, the magistrates would only impose the mitigated penalty of 5s. and costs against the farmer, and costs only against the son.—Several farmers were also summoned for selling milk as new which was deprived of the butter fat by not being intermixed with the “afterings,” and fines of 5s. and costs were imposed.

At Wednesbury, on July 31st, the Callow Park Milk Company, West Bromwich, and William Lee, salesman, in their employ, were summoned for selling milk deficient of 18 per cent. of its natural fat. Mr. Caddick prosecuted for the West Bromwich Corporation, and Mr. L. Clark defended. The milk was sold by Lee from a handcan, in Duke Street, West Bromwich, to Harry Turner, an assistant inspector of the Corporation. The defence was that the milk was of good quality, but had stood in a churn all night at the railway station, with the result that the cream settled on the top, and the milk purchased by the inspector had been taken from the bottom of the churn. It was stated that the company had since provided their employes with mixers so that such a thing could not occur again. The Stipendiary expressed the opinion that the company had been neglectful, and fined them £3 and costs. Lee was fined 10s. and costs.

At the Castle of Exeter, John Hert Creasey, of the Victoria Dairy, Lions' Holt, Exeter, was summoned for selling to Albert Pratt, a half-pint of new milk, not of the nature, substance, and quality demanded by him. Mr. J. I. Pengilley defended. Thomas Waldron, a lad, of Polsloe Park, employed by the defendant, deposed to selling a half-pint of new milk to Sergeant Pratt about 7.40 on the 22nd prox. which the latter divided for analysis. Witness had not interfered with the milk. He left the defendant's employ on the following day without notice. When he was in defendant's service he had to make an entry of the sales and Mr. Creasey had a daily “row” with him with respect to his negligence of duty. Sergeant Pratt produced a certificate of analysis, which showed that the milk had been deprived of at least 16 per cent. of fat. Mr. Pengilley said that his client's knowledge of the matter was an entire blank. The milk, as supplied from the farmers, was perfectly genuine, and the only explanation his client could give was that it must have been tampered with since it had been taken away from the premises. Defendant gave evidence on oath, and said the milk, on being received from the farmers in the

morning, was strained under his supervision, and he denied that there was any fat taken from it. Witness had had samples of milk from the farmers analysed and found them very satisfactory. The boy denied having been paid a penny for the milk; but P.C. Hill, who was present with the sergeant at the time of the purchase, was called, and spoke to seeing the boy to take the penny from the sergeant. After a consultation in private, the Bench inflicted a fine of 15s. inclusive.

At the Hartlepool Petty Sessions, on July 31st, John J. Carobine, milk dealer, Arch Street, Hartlepool, was summoned for selling adulterated milk. Mr. Joseph Charlton, Inspector of Nuisances, said he was also Inspector under the Food and Drugs Act. On Monday afternoon, the 9th ult., he went to Mr. Carobine's house in Arch Street, and asked if he had any milk. He said, “No.” Witness then went into the shop, and found a tin with not less than two gallons of milk on the counter. At first he said it was that morning's milk, and witness then purchased a pint, for which he paid one penny, defendant saying at the time he would only charge a penny as it was old milk. Witness then divided it into three parts as usual, one of which was sent to the Public Analyst, whose report showed that it contained 12 per cent. of water. Defendant denied that he sold it as milk. He said it was ready mixed for ice cream. When Mr. Charlton asked for the milk he said he had none to sell. This was in the back yard. When they got in the shop the Inspector said, pointing to the tin, that there was a lot of milk, but witness replied that there was no milk there to sell. What was there was mixed for ice cream. He insisted on having a sample. Witness sold it, but said he must pay for it at its worth as old milk. In reply to the Bench, defendant said he kept milk in the same tin and on the counter, but when it was milk it had the measures in. He had eleven different sets of measures. Mrs. Carobine also gave evidence. The Chairman said the majority had decided to dismiss the case.

**BORACIC ACID IN CREAM.**—At Brentford, on August 2nd, Thomas Baker, grocer, Acton; George Mauser, grocer, Brentford; Josiah Clark, grocer, Chiswick; John Buckle and Richard Barker, grocers, Chiswick; William Durbin, grocer, Ealing; and J. Sainsbury, grocer, Ealing, were summoned by Inspector Tyler under the Food and Drugs Act for selling cream injurious to health, containing boracic acid ranging from 0.67 per cent. to 1 per cent. Dr. Herbert Smith prosecuted on behalf of the Middlesex County Council; Mr. Trevor Davis defended Mauser and Durbin, Mr. F. W. Beck defended Baker, Buckle & Barker, and Sainsbury, and Mr. Ricketts defended Clark. The cases lasted six hours. Clark's case was taken first and argued at length. At the conclusion the chairman suggested that the amount of boracic acid allowed in cream might be reduced by consent of all the defendants to 0.20 per cent. of boracic acid or 0.30 per cent. of boracic acid as the least amount necessary to preserve the cream for a reasonable time. If the defendants accepted this all would be bound over to come up for judgment, and pay costs. In reply, it was stated that it was impossible to keep cream from getting sour on this percentage of borax. Clark was then bound over to come up for judgment, under the condition that he must not sell cream in a greater percentage of borax than 0.30 per cent. He would have to pay costs. Mauser and Durbin were similarly dealt with, and the other cases were adjourned.

**MILK SELLERS' NAMES AND ADDRESSES.**—A point of interest to milksellers had some light thrown upon it at Kirkham Petty Sessions, in a prosecution by the County Authority against Mark Hosker, for selling one pint of new



milk in a can without having his name and address upon it. Mr. Wilson, from the County Offices, Preston, said this was the first case of the kind that had been taken in Lancashire. It was brought not so much to obtain a substantial penalty against the defendant, as to draw public attention to what the present law is on the subject. The prosecution was taken under Section 9 of the Food and Drugs Act, 1899, which came into force on January 1st this year. The particulars of the case were that on May 13th, Sergeant Fenton took a sample of milk from John Hosker, a son of defendant. This was in Clifton Street, Lytham, and upon its being sent to the County Analyst it was certified to be genuine milk. The can, however, had no name or address upon it. It was a can to hold three or four quarts of milk, and was being carried about, and there was decidedly a contravention of the Act. Defendant, in reply, said that the young man in his employ, not his son, was delivering milk, and not selling it. He had none to sell, but as the inspector wanted a pint of milk for analysis he had let him have a pint. Defendant, in answer to the Bench, expressed his willingness to pay the costs, and with this the case was disposed of.

**IPSWICH TOWN CLERK AND MILKMAN.**—Mr. Bantoft, the Town Clerk of Ipswich, was recently fined for cycling without a light. He summoned the man who informed against him, a milk dealer named Towers, for milk adulteration. Moreover he asked for exemplary punishment, as he said Towers belonged to a trade protection society which had lately raised the price of milk owing to a successful raid on defaulting dairymen. The fine and costs imposed upon Towers came near to £5, and he left the Court shaking his fist at the Town Clerk.

**BAD CONDENSED MILK.**—At West Ham, on July 30th, Thomas William Smith was summoned for having on his premises for sale a quantity of condensed milk which was unfit for the food of man. Mr. F. Beck defended. In all, Inspector Warwick seized ninety-eight tins, eighty-five at 237, Gipsy Lane, and thirteen at No. 247, and as the information alleged that the ninety-eight were exposed at No. 247 the summonses were amended and confined to the thirteen tins found at 247, Gipsy Lane. While the Inspector was examining goods on the premises and had found nothing to complain of he met a young lady with some tins in her apron. She said she had taken them from a shelf in the shop. Two opened on the spot were bad, and the others seized were not good. The defence was that the custom of the neighbourhood was to open the tins when the customer bought, and if they were not opened and were brought back as bad they would be changed. There was no difficulty in getting such tins changed by the wholesale dealers. Mr. R. A. Gillespie said that did not touch the fact that the goods were on the premises and had been on the shelf among others for sale. He imposed a fine of £2 £1 7s. costs.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Boston, on July 31st, William Darley, South End, was summoned by Mr. J. Stephenson, Sanitary Inspector, for having sold Danish butter containing 10 per cent. of foreign fat. Mr. R. W. Staniland, Town Clerk, prosecuted. Mr. W. H. Gane defended, and said the analyst's report was dated July 13th, but it was not made returnable until July 31st. The section of the Act said that no proceeding should be taken after twenty-eight days, and this was reasonable, because in case of appeal it would be impossible for the defendant to have a separate analysis taken. He quoted the case of Dixon v. Wells and the judgment of Justice Coleridge in support of his contention, and said that if the case proceeded he should offer no evidence, but should ask for a case to be stated, these proceedings being thirty-three days after the alleged offence. Mr. Staniland replied that the proceedings were taken under the Act of 1899, and the case Mr. Gane had quoted was under a section of the Act of 1879. The Act stated that the proceedings must be instituted within twenty-eight days, and the summons must not be heard within fourteen days. The Magistrates

retired to consider the arguments, and held that Mr. Gane's objection was good, and dismissed the case.

At Tralee (co. Kerry) Petty Sessions, Thomas Roche, butter merchant, was charged with exposing for sale a quantity of butter containing an excess of water. The certificate of Sir Charles Cameron, analyst, Dublin, showed that the sample contained 25·78 per cent. of water. greatest quantity that should be permitted was 16 per cent. Sergeant Brosnan admitted that Roche was served with the summons by Constable Spenser, who was absent that day. The case was adjourned on the application of Mr. Broderick.

At Kensington Petty Sessions, Charles Clarke, 119, Warwick Road, Kensington, was summoned by the Vestry for selling as butter an article certified as containing 10 per cent. of margarine. Mr. W. Chambers Leete, Vestry Clerk, prosecuted, Mr. Ricketts defended, and Mr. Washington was for the United Creameries, from whom, it was said, the defendant had obtained the article in question. Inspector Ellenden proved the purchase of the article, and produced the public analyst's certificate. While witness was dividing the article in the usual way the defendant said, "I know the butter is all right. I get it from a good firm, and do not keep margarine on the premises." The defendant also drew witness's attention to the box from which the article was taken, and which bore the words, "Guaranteed good butter. Dutch produce." On the box also were the letters "M.M.," signifying "Michael Mathew." Cross-examined: Witness had taken samples from Mr. Clarke's shop on several previous occasions, and the samples had always proved to be satisfactory. Mr. Ricketts, for the defendant, said it was evident that the defendant bought the article in question from Mr. Mathew, fully relying upon the respectability of the firm, and believing the article to be genuine. The article was delivered to the defendant on the day before the purchase. On the invoice was written, "Two dozen fresh butter, 1ls.," and at the bottom of the invoice was printed, "We guarantee that this butter, marked 'M.M.' in blue, is pure." Continuing, Mr. Ricketts said that he had received a notice from Mr. Washington to the effect that Mr. Mathew had bought the article with a warranty from a firm in Holland as "Guaranteed not to contain boracic acid or an excess of water." Mr. W. Bird (magistrate): We have no jurisdiction over a Hollander. Mr. Ricketts: But you have over Mr. Mathew. Before he guaranteed the article he should have had it analysed. Mr. Bird: Would the Board of Agriculture have jurisdiction over the Holland firm? Mr. Washington: The firm have an agency in London. Mr. Leete: I can quite see that against Mr. Rickett's client this summons must fail. Mr. Mathew, it appears, gave a warranty to Mr. Clarke, but the latter is protected by another warranty. Mr. Washington: The desire of the representative of the United Creameries is, I understand, that the third sample taken by the inspector should go to Somerset House. Mr. Ricketts: I am quite prepared to consent to that, but is the representative of this firm willing to accept service of a summons in London on behalf of his firm? A gentleman representing the United Creameries came forward and intimated that he was prepared to accept service of the summons, waiving all formalities. The summons against the defendant, Mr. Clark, was then dismissed.

**MARGARINE FOR LODGERS.**—At Kirkham, on July 25th, Joseph Boyes, of St. Annes, was charged with having margarine for sale not properly labelled, and delivering margarine without a margarine paper wrapper. Mr. Wilson stated that at 10 o'clock on the night of Thursday, 24th May, Inspector Parkinson entered the defendant's shop at the corner of St. Alban's Road and St. Patrick's Road, St. Annes, which is an adjunct of a large lodging-house. He asked to taste a tub of butter, and he saw a large lump of apparent butter exposed for sale. He asked what it was, and she said that it was only for their own use. He asked to be served with some, and she wrote upon a paper the word "Margarine"—which was dis-



tinctly illegal. The Inspector saw that there were two tubs of margarine in the shop, but defendant's explanation was that she kept it for her boarders. She said that she had ten people in the house, seven men, two women, and a boy, and she could not afford to give her lodgers butter. Mrs. Boyes, who appeared for the defendant, said that she did not know she was doing anything against the law. Her husband was an invalid. The Bench imposed a fine of 10s. in each case.—A second case, in which the particulars were heard against Margaret Fleetwood, Freckleton Street, Kirkham. She was fined 10s. and costs in the first case, and 5s. and costs on the second charge, in which she pleaded ignorance of the regulation.

At Leeds, on August 1st, J. T. Phillips, 30, Spa Street, Holbeck, was summoned for selling 1 lb. of butter adulterated with 88 per cent. of foreign fat. Mrs. Phillips said she had "bought the butter for butter and sold it for butter," and was not aware that it was adulterated. She had spoken to the person who had supplied it, and he said it was good for anything he knew. The Stipendiary Magistrate expressed the opinion that the defendant had been the victim of the wholesale dealer, and imposed a penalty of 20s.

At West Ham, on July 30th, Francis Johnson, 11, Tate Road, Silvertown, was summoned for selling as butter margarine which contained only traces of butter fat, and was fined £4 and £1 1s. costs.—James McHardy, 78, Albert Road, Silvertown, for selling as butter a substance containing 60 per cent. of margarine, was fined £3 and £1 6s. costs.

At Stratford, on July 28th, Sydney Rutley, a provision dealer, of Romford Road, Manor Park, was summoned for selling as butter a substance containing 60 per cent. of margarine, and was fined £5, and 6s. costs.

At North London Police Court, on August 1st, Stephen Evans, provision merchant, 39, Broadway, London Fields, was summoned for selling butter adulterated with 92 per cent. of foreign fat. Mr. Young defended and pleaded guilty, saying that the sale of margarine in place of butter was a mistake. Mr. Tiddeman said the defendant had been previously fined £5. Mr. Fordham said that it was a bad case, but as Mr. Young had met the case fairly he should not increase the fine—£5 with 12s. 6d. costs.—David Lloyd, provision merchant, 88, Chatsworth Road, Clapton, was summoned for selling as butter a substance containing 94 per cent. of foreign fat. Mr. Tiddeman said that the defendant kept what was known as a "dollop" shop. He professed to give three-quarters of a pound if a half-pound were asked for. Mr. Fordham fined the defendant £3, with 12s. 6d. costs.—Mrs. Catherine Lewis, 251, Wick Road, Homerton, was summoned for selling butter adulterated with 92 per cent. of foreign fat. Mr. Ricketts said that the defendant would plead guilty, but there were extenuating circumstances. She was the wife of an ex-police-constable, who had been discharged from the force as incapable of doing further duty. She had a small business, but it was difficult to make both ends meet. The margarine was sold by mistake. Mr. Fordham said that he would take a compassionate view of the case and should only fine her 2s. 6d., with 12s. 6d. costs.—William Jenkins, of 24, Median Road, Clapton, was fined 30s. with 12s. 6d. costs for 71 per cent. adulteration.

**BAKING POWDER PROSECUTION.**—At Dudley, on July 25th, George Williams, Cross Street, Woodside, was charged under the Food and Drugs Act with selling an article not of the substance and quality demanded. Mr. T. C. Brown (Inspector under the Act) stated that he purchased from defendant three packets of baking powder, one of which he analysed, in which the analyst found 45 per cent. of alum. Mr. Vernon (Oldbury), who defended, cited a recent decision of Justice Darling, from which he held that the Inspector ought to have subdivided the packet and not the entire purchase. Where an article was too small to be sub-divided it did not come under the Act. The case was dismissed.

**MARGARINE CHEESE.**—At Marylebone, on July 31st, Claude James Constant, trading as A. Constant, at 467, Holloway Road, was charged with selling 9 oz. of cheese adulterated with foreign fats to the extent of 28 per cent. The defendant was also summoned for not properly branding and labelling a package of margarine-cheese. Mr. Ricketts, junr., solicitor, who prosecuted, pointed out that the defendant was in a large way of business both at Islington and Kentish Town. He was also a member of the Sanitary Committee of the Islington Vestry, and it was somewhat curious that the first proceedings taken under the new Margarine Act, which extended the provisions of the old Act to margarine-cheese, were instituted against him at Clerkenwell in June last, when he was fined 20s. with 12s. costs. The defendant pleaded that his assistant, in selling margarine-cheese as cheese, acted contrary to his explicit instructions and had since been discharged. Mr. Plowden said the case seemed to be one of "Who shall guard the sentinels themselves." It only showed how deeply rooted the practice of adulterating food was. In his opinion these cases of adulteration bordered upon the criminal law itself. There was often far more excuse for a person who committed larceny than for a person who sold adulterated articles of food. The practice of poisoning the food of the people seemed to permeate our whole trade. He fined the defendant £5 with 14s. 6d. costs. The second summons was not gone into.

**COCOA ADULTERATION.**—At Lambeth, on August 2nd, the Camberwell Vestry summoned William Wooley, of Avondale Road, Peckham, for selling cocoa which was not of the nature, substance, and quality of the article demanded by the purchaser. Mrs. Groom, wife of the vestry's inspector, stated that she went to the defendant's shop and asked for half-a-pound of cocoa. A lady in the shop asked, "What price?" and she replied "What price have you?" The lady said, "Our shilling cocoa is very good." Witness said, "That will do!" and was served. The defendant said he was not in the shop when the order was given, but when he came in his wife said, "This lady wants half-a-pound of chocolate powder." He put the tin on the counter. It had the words "Rowntree's Chocolate Powder" on it in large letters. There was no deception, as the lady was served from the tin right in front of her eyes. Inspector Groom produced the analyst's certificate, which showed that the article supplied contained 39 per cent. of sugar and 15 per cent. of added starch. Mr. Hopkins (to defendant): I don't know how you people can be so utterly careless about the way you carry on a business that you know is being looked after every day. The defendant said he traded as fairly and justly as he could. He had lived nearly sixty years, and had never been in a police-court before. It came rather hard now. Mr. Hopkins ordered the defendant to pay a fine of 20s. and 17s. 6d. costs.

**COFFEE ADULTERATION.**—At Lambeth, on August 2nd, Jessie Scott, of Brayard's Road, Peckham, was summoned by the Camberwell Vestry for selling coffee which contained 58 per cent. of chicory. Mr. G. W. Marsden, solicitor to the Vestry, appeared in support of the summons. The case was originally before the court on the 19th ult., when in the defendant's absence, a fine of 20s. and costs was imposed. The defendant afterwards wrote to the court explaining that her absence was due to illness, and the case was reinstated in the list. Mrs. Groom, wife of the vestry's inspector, stated that she went to the defendant's shop and asked for a quarter of a pound of coffee. The defendant asked her to have a tin, but she said she would rather have it loose, and was served with it. Defendant: I did not understand her to want pure coffee. I only charged her mixture price. Inspector Groom produced the analyst's certificate, which showed that the article supplied contained 58 per cent. of chicory. Mr. Hopkins ordered the defendant to pay a fine of 20s. and 17s. 6d. costs, thus confirming the previous decision.



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## Food and Sanitation.

SATURDAY, AUGUST 25, 1900.

### Dietetic and Hygienic Notes.

#### Fattening Diseased Cattle for Human Food.

CHESHIRE MEDICAL OFFICER'S VINDICATION.

At the fortnightly meeting of the Northwich Rural Council two long letters were read from Dr. Francis Vacher (Medical Officer of Health for Cheshire) anent the recent case of tuberculosis and the fattening of diseased cattle for human food, with reference to which question were asked in Parliament. Acting on the Council's instructions the clerk had written to the County Medical Officer stating that the Council could not understand how any responsible official could suggest that a diseased cow should be fed up for the market, and, further, that such advice was calculated to embarrass the Council in any diseased meat prosecutions they might deem it necessary to institute.

In the course of his reply, Dr. Vacher said he could give no explanation of such advice being given to farmers. When he read the letter of Dr. Niven, Medical Officer of Health for Manchester, suggesting that the cow at Organs-

dale should be dried off and sold for slaughter, it did not occur to him (Dr. Vacher) that Dr. Niven was advising a farmer to feed up a diseased beast for human food, but that he was taking steps to ensure it being dried and slaughtered in the presence of a capable veterinary surgeon. In trying to prevent tuberculous milk and meat being supplied to the public, Dr. Niven deserved support. In his opinion, the flesh of a tuberculous animal should not be used for food under any circumstances, either for man or the lower animals, and this was the principle he had laid down in his handbook on food inspection. Up to the early part of last year medical officers were free to use their own judgment in determining what amount of tuberculosis in a carcass would warrant them in seizing it and applying for a magistrate's order for its destruction. Since then, the Local Government Board had issued instructions to meat inspectors, and, it mattered not what his own opinion was, inspectors would have to conform to the Board's order, which set forth the degree of tubercular disease which warranted a carcass being seized. He was of opinion that Dr. Niven had given such advice as the Local Government Board would approve. Still he could not defend their instructions, and he certainly could not give the reason why in a pig the presence of tubercular deposit should involve seizure of the whole carcass, while in a cow the presence of tubercular deposit in the lungs and lymphatic glands should not involve seizure.

Mr. Hillington (vice-chairman) said that both with regard to analysis of milk and tuberculosis, mistakes were made, and the opinions of medical officers were too readily accepted. He knew of a case where the inspectors saw a cow milked, yet the analyst certified that there was 10 per cent. of added water. (Laughter.)

Mr. Howitt described it as monstrous that the Local Government Board should instruct any medical man to send out such rubbish. It was terrible to think that they advised that such meat should be sold as human food, and that it should be sent to Shudehill Market at Manchester for poor people to buy at 2d. per lb., simply because they could afford to buy no other.

The Council unanimously adopted a resolution in support of the payment of compensation to farmers whose cattle were condemned by the authorities.

\* \* \* \*

#### Pasteurised Cheese.

THE United States Consul at Bergen says:—Cheese of pasteurised milk has until lately been considered almost impossible to produce, and dairymen have been at a loss how to use the churn milk, which has been sold as feed for pigs or thrown away. A short time ago a chemist at Stockholm—Dr. Frans Elander—succeeded in effecting a preparation that solved the above-mentioned difficulties. Owing to this discovery, which has been named "Caseol," palatable and nourishing cheese, free of tubercular bacilli, can now be made from pasteurised skim milk. This preparation has, moreover, the excellent quality of rendering cheese more digestible. Several dairies in London have made experiments with caseol, with favourable results.



### Erroneous Ideas Regarding Food Values.

PROFESSOR SNYDER, of the University of Minnesota, has an instructive paper on this subject in a recent number of the *Sanitary Home*, from which we transcribe it in full. He says :—

The difficulty of establishing standards for measuring the value of foods has been discussed by many of our most prominent chemists and scientific workers, but a review of the columns of many of our periodicals would seem to indicate that the problems which the food chemists are attempting to solve have in a way been decided by many of the writers upon food problems. There is, to say the least, a lack of reliable literature upon the value of human foods. Statements are frequently made that potatoes are of no value as food because they are all fibre, mushrooms are equal in food value to beefsteak, white wheat flour is not nutritious, yellow cornmeal has a higher food value than white cornmeal, eggs with highly coloured yolks are richer in fat than eggs with lighter yolks, also that the banana has a high food value, beef extract contains all of the nutrients of beef, cocoa will supply all the demands of the body, and that fish is a valuable brain food. In fact, many of these statements have even found their way into some of our text-books.

*Are potatoes fibrous?* Potatoes ordinarily contain about 4 per cent. fibre or cellulose material, that is a bushel of potatoes contains about a quarter of a pound of fibre. The digestion experiments that have been made show that over 90 per cent. of the total nutrients in potatoes undergo digestion in the digestive tract of a man at ordinary work. Certainly facts do not warrant the statement that potatoes are indigestible or that they are fibrous. The writer recognises there are conditions when it would not be desirable to consume as food large amounts of potatoes, but to state that potatoes are of no food value because they are fibrous or indigestible is contrary to all experiments that have been performed with potatoes as a human food.

*What is the value of mushrooms?* As a food, mushrooms have no greater value than any ordinary vegetable foods. They contain 90 per cent. of water and less than 1½ per cent. of nitrogen. To state that they are equal to beef in food value is not correct. They are valuable as a relish, have a pleasant taste and impart flavour to other foods, but they are of no material value as food. This, I am aware, is contrary to what is believed by many, but the chemical analysis of a large number of mushrooms and edible fungi allow of only one conclusion: They are valuable as a relish, but possess but little value as food.

*Does white wheat flour lack nourishment?* No. By our modern process of milling flour from 62 to 70 per cent. of the wheat is obtained as patent flour. The granular middlings are reduced and recovered in the flour, and not lost as many writers believe. Flour made from hard Northwestern spring wheat is characteristically rich in protein and gluten compounds. White flour is not "all starch," but contains 12 per cent. or more of protein or muscle-making materials.

*Yellow and White Cornmeal.* When grown under similar conditions yellow and white cornmeal have the same chemical composition and food value. One contains colouring matter and the other does not. Colour does not make muscle or produce heat. White butter and yellow butter have the same food value, they differ only in colour. There is no reason why white cornmeal should not be used as food, for it certainly has the same food value as yellow cornmeal. The same statements in regard to colour are also true of yellow and white coloured eggs.

*Bananas.* The banana is a valuable fruit, but it does not possess the high food value sometimes attributed to it. The banana contains less total nutrients than potatoes, and children who are allowed to make a meal of bananas are not as well nourished as if the meal had been entirely of

potatoes. A pleasant taste, which is desirable, does not necessarily imply a high food value.

*Beef extracts* are, as a rule, over-estimated in food value. While they contain some nutrients, the principal materials present, as sarkin, kreatin and xanthin, are stimulating in their action rather than flesh producers. The recent experiment of Dr. Mallet of the University of Virginia, performed under the directions of Prof. Atwater, plainly indicates that the meat extractive materials fail to perform the functions of food. A dog fed on beef extract entirely died from starvation sooner than a dog that was deprived of all food. The beef extract, if used in excessive amounts, stimulates the body to draw upon its own tissues as food. In small amounts, beef extracts are valuable for imparting flavour and palatability, but they do not add nutrients.

*Cocoa.* Cocoa contains a fair amount of protein and other nutrients, but, as frequently pointed out, so little of the material is used for making the beverage that the cocoa does not contribute very much to a ration. Not counting the milk and sugar, it has been estimated that it would take 250 cups of cocoa to supply the nutrients required by the body for one day. I mention this fact not to discourage the use of cocoa, but to remind those who make a meal of a cup of cocoa and a piece of sponge cake that they are not properly treating their bodies.

*Fish as a brain Food.* A recent bulletin from the United States Department of Agriculture, entitled, "Fish as Food," discusses this subject, and from the facts presented it is evident that the flesh of fish contains no larger amount of phosphoric acid, protein and other nutrients than ordinary meat and many other foods.

Other erroneous ideas regarding the value of some of our common foods could be mentioned, but to discuss all of the food fallacies which have found their way into leading periodicals would necessitate a very lengthy article. It is evident that many of the statements made regarding the value of foods are not founded upon actual facts or experiments, but are simply products of the imagination. Physicians and college professors are in a few cases guilty of having made erroneous statements regarding the value of foods.

Along with the instruction in chemistry, physiology, and hygiene, a short common-sense course should be given in our common schools, academies, and colleges, in the study of human food problems. Not long ago I heard a prominent physician say that had he known the rudiments of food values when he was young, he could have added a number of years to his life, and have been stronger, healthier, and more active in his old age. It is safe to say that there is no subject that is so generally neglected as the study of human foods.

\* \* \* \*

### Death in the Salmon Tin.

AN inquest was held on August 8th at Brockmoor, before Mr. F. A. Stokes (county coroner)—on the body of a young girl named Ann Maria Gregg. Evidence showed that the deceased, after eating tinned salmon on Saturday, became suddenly ill in the early hours of Sunday. A doctor was sent for, but death followed after severe vomiting. The mother of the girl told the coroner and jury that when the deceased retired to rest she was apparently in her usual health; and another witness said she saw Miss Gregg eating tomatoes.

Details of a *post-mortem* examination were given by Dr. Giffard, of Brierley Hall, who found all the organs healthy with the exception of the stomach, which was dilated, and showed unmistakable traces of an irritant. He expressed the opinion that tinned salmon would cause the poisoning of the stomach.

The jury found that death was due to "ptomaine poisoning, probably caused by tinned salmon."



### The Deadly Ice Cream.

THE subject of the sale of ice cream, says Mr. Albert Smith, M.L.C.S., is of the very greatest importance from a sanitary point of view. That it must be so is evident, when we consider the character of the substances used in the manufacture of these creams, and also the large consumption of them, especially by children and young persons, and the unhealthy conditions under which some of them are made. The water used in connection with the business is often stored in cisterns which are very seldom, if ever, cleaned out, making the water very foul. But this is not the worst feature. The manufacture is often carried out in small, dirty back yards, the effluvia often very offensive, or in evil-smelling sleeping-rooms, the air loaded with suspended matter, such as floating hairs, flesh scales, spores, wool, cotton, straw, and flax fibres. The microscopical examination also revealed vermin of various kinds.

The chemical analysis showed these so-called creams to be composed principally of boiled maize starch, without any eggs, cream, or milk whatever; some contained gelatine or size (I say size, because alum was also found), also traces of lead, zinc, and antimony. The colouring matter was aniline, a product of coal-tar; and, as these colours sometimes contain arsenic, special search was made for this poison, but without result. Some of the samples were flavoured with acetate of amyl, which is produced from fusel oil, and will produce headache, drowsiness, sickness, and stupor in children. The bacteriological examination revealed in each sample an abundance of microbes. The microbes, as far as their morphological characters go, belonged to a variety of species—short thick bacilli, long thin bacilli, spiral cocci, some motile, others not motile. Cultivations were made in order to ascertain accurately the nature of these microbes. Amongst them are conspicuous *bacillus fluorescens liquescens* and *bacillus coli*. The latter microbe is a normal inhabitant of the bowels of man and animals, and any water containing this microbe in all probability had been polluted with excremental matter. I have often found them in sewage. Other samples contained a number of *proteus vulgaris*, a microbe of putrid decomposition, and also *micrococcus aurantiacus liquescens*; also *torula cerevisie* in abundance. One sample contained a bacillus which, in plate cultivation in gelatine surface, gelatine stab, and gelatine shake culture, resembled the bacillus of typhoid. At any rate, it belonged to the same family; it differed from *bacillus coli* in not forming gas in shake culture, in not forming indol in broth culture, and in not curdling milk; in these points it resembled the bacillus of typhoid, but was not so motile.

The above analysis shows a dangerous state of things. I think it is quite time that the London County Council should introduce a Bill to empower local authorities to grant licences to vendors of these articles, and in cases where, upon analysis, these creams were found impure, to find them and forfeit their licences. The above samples were taken in North London, South London, North-east, and East. Many were taken from street vendors, but some were purchased from shops, and samples were also taken from Ramsgate, Margate, Dover, and Herne Bay.

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### The British Medical Association and Preservatives in Food.

At the meeting of the British Medical Association at Ipswich, Dr. A. S. Grundaum, of University College, Liverpool, read a paper on "Food Preservatives and Colouring matters in Food," in which he said that the enormous extent to which food preservatives were now being used, the abuses to which they were put, and the injuries which they might cause, made stringent and definite legislation on the subject necessary. At present our law was too vague and narrow, and our trade interest too selfish, and our magistrates for the most part too ignorant, for much progress in this direction. That laws requiring any trade to have consideration for public good should be destructive to such trade he did not believe. Preservatives might be added—(1) in a *bona-fide* way; (2) with fraudulent intent; or (3) with a view to either temporary or permanent preservation. The addition might be considered *bona-fide* if the purchaser was aware of the addition, or the article was well known to usually contain a preservative; and its use was fraudulent if the addition was concealed, or was used to make a stale article appear fresh, or if the preservative was injurious. In examining the question of preservatives he had, unfortunately, not been able to find evidence of a high standard of commercial morality. If they could rely on the quantity and quality of a preservative being always intimated to the purchaser it might be possible to permit their use within certain limits. In most articles of food the addition of a preservative should be uncompromisingly forbidden, and the only class in which it seemed to him in any way admissible was preserved meat of various kinds—for example, ham, bacon, etc., but not in potted meat. The following resolution was adopted:

"That is the opinion of the Section of State Medicine of the B.M.A. the addition of preservatives to milk, butter, and similar products, beer and wine should be prohibited, and their addition to other foods regulated by statute."

## Official Reports and Notes.

### Town and Country Milk.—Nantwich Council and the Liverpool Medical Officer.

At the Nantwich Rural Council, Mr. J. A. Davenport referred to the question of milk supply which had formed the subject of a report by Dr. Hope, M.O.H. for Liverpool. In considering the question "Is country milk more dangerous than town milk," Mr. Davenport said he was aware that statistics might be made to prove anything, but when it was boldly stated in the papers that country milk was more dangerous than town milk, and why it was, it behoved the country man to prove the contrary or set his house in order so that it might be disproved. Dr. Hope, M.O.H. for Liverpool, had made a report on the milk supply to Liverpool, and there was at all events some matter in it that required consideration. It was satisfactory to find that adulteration was not frequent with either town or country supplies, but rather more water was found in

samples which had been taken on Sundays. It was stated, however, that in regard to the tubercle bacillus a most important difference was found. It was put down as a serious reflection upon the sanitation of country shippens that tubercle was found more than twice as often in samples from the country than in samples from the town dairies. Out of 479 town samples 20 or 4.1 per cent. were found to be infected with tubercle, but out of 280 samples of country milk taken at the railway stations on arrival from the country 29 or 10.3 per cent. were found infected. The consumer in an article in one of the sanitary papers was advised to procure town milk in preference to country milk. The report of Dr. Hope was stated to support the results of general observations, and to illustrate the difficulty of reaching the rural understanding. All conditions should be in favour of the dairyman, but it was the sanitation of the dairyman that was condemned. He mentioned this in support of what Dr. Turner said some-



time ago. It was clear that something better than what was often found would have to be aimed at in the future, and it would be seen that owners and occupiers of farms would have to pull together in many cases to attain to a higher standard of sanitation generally in connection with their cowsheds or a prejudice would be produced in the press against country milk, which should be without reproach.

Mr. James Sadler (secretary of the Cheshire Milk Producers' Association) said the council was thoroughly acquainted with his views with regard to the duty of farmers in connection with the carrying out of the provisions of the Dairies and Cowsheds Order. He agreed with Mr. Davenport and Dr. Turner in suggesting that it was absolutely necessary that farmers for their own protection should take whatever practical steps were possible to put their dairies and cowsheds in proper order, but he wished to point out the difficulty which was to be met in instituting any kind of comparison between milk produced in the country. He might say that sometime ago the Liverpool Corporation insisted upon the requirements of their Dairies' and Cowsheds' Order being carried out by the Liverpool cowkeepers, who were a very numerous and influential body. The cowkeepers responded to the Corporation's wishes, and carried out the requirements of the order to the letter. They built very handsome cowsheds, and it was only reasonable to suppose that the Liverpool Corporation having been freely and fully met by the cowkeepers were extremely pleased. Having insisted upon the cowkeepers carrying out the requirements of their order they were now supporting in every possible way the Liverpool cowkeepers in their business by taking every opportunity of advertising their milk and drawing comparisons, which were sometimes invidious, between town produced milk and country produced milk. Having fallen in with their somewhat extreme views it was quite natural that the Corporation should support in every possible way the business of the Liverpool cowkeepers. It had paid the latter to carry out the requirements of the Corporation, and Cheshire farmers might take a hint from that fact. With regard to the supposed difference between the percentage of tubercle found in country milk and that found in town produced milk he wished to point out that Liverpool cowkeepers were amongst the largest purchasers of country milk, and the Liverpool inspectors who took samples of milk from Liverpool cowkeepers did not know whether they were taking samples of Liverpool produced milk or milk supplied from the country. It might be milk produced in Liverpool, but the chances were equal that it was country milk which the Liverpool cowkeepers had bought, and were selling as town milk. Therefore he argued that there was absolutely no value to be placed upon statistics obtained in the way suggested by Dr. Hope, because out of a number of so-called samples of town milk one-half of them might be country. (Hear, hear.) He did not blame Dr. Hope for trying to support the Liverpool cowkeepers, who had so well carried out the requirements of the Corporation, but he wished to say notwithstanding what Dr. Hope or any other medical officer might say that no one would ever persuade him that the country was not the natural place in which to produce milk. The only point he would insist upon was that the conditions under which that milk was produced should be fairly good, and in that case he hoped no medical officer would be found to try to force upon them the opinion that the town was the better place in which to produce milk, because the idea would be unnatural and unreasonable. (Hear, hear.) Practical men in every city would say that there was a different aroma from country milk than from town milk. He presumed that arose from the fact that cows in the country were found more natural food than were cows in towns, and the result was that milk had a more natural taste and smell than had milk obtained from cows which were kept in towns—however good the conditions might be under which they were kept—because the latter was fed largely on artificial foods. In conclusion, Mr. Sadler expressed a hope that the duty of attending to cowsheds

and dairies would not be neglected since the matter was one which required to be carefully considered by the council.

Mr. John Edwards said an injustice was done by farmers by samples of milk intended for analysis being taken at the arrival station. Large supplies of milk were sent from Crewe, Nantwich, Betley Road and other stations to large centres, and of samples were taken at the starting station it could be ascertained whether the milk was tampered with during transit. The question he thought was one which the Milk Sellers' Association should take up. He had in his mind a case where milk was supposed to have been tampered with, when as a matter of fact it was sent away in a pure and simple state.

Mr. Davenport said there was no doubt an effort was being made to create a prejudice against country milk in the way suggested by Mr. Sadler, and it was the duty of the council to prevent that prejudice being created.

Mr. Edwards thanked Mr. Sadler and Mr. Davenport for having called the attention of the council to the matter, and hoped the discussion would find its way to the public through the press.

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#### Adulteration in Leeds.

THE Leeds City Analyst (Mr. Thomas Fairley), in his quarterly report to the Leeds Corporation Sanitary Committee, states that he has examined 121 samples submitted by the Food and Drugs Inspector. Of 106 samples of milk, 3 were found to be watered, 1 deprived in part of its fat, 3 both watered and deprived of fat, and 32 poor or of low quality. Of 12 samples of butter 5 were adulterated with fat other than butter fat. The total percentage of genuine samples is almost the same as during the corresponding period of last year.

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#### Food Adulteration in Manchester.

DURING the past quarter, according to the Manchester analyst, Mr. C. Estcourt, F.I.C., F.C.S., groceries and general provisions have been remarkably free from adulteration. The adulteration has been highest in the milk supply. Here again, however, it is very low, amounting to less than 2 per cent. of the milk samples taken. The authorities, Mr. Estcourt considers, may fairly be congratulated upon the results of their endeavours to check adulteration in the food supply of the city. Among the milk samples submitted for analysis during the quarter several contained added water, and one had been deprived of fat to the extent of 20 per cent. One of the butter samples was found to be margarine, the fatty matter being composed of foreign fat flavoured with butter fat; while a cheese sample had 90 per cent. less fat than the genuine quality of cheese.

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#### The Annual Meeting of the Inspectors of Weights and Measures

THE Annual General Meeting of the Incorporated Society of Inspectors of Weights and Measures, who administer the Weights and Measures, Food and Drugs, and Petroleum and Explosives Acts, was opened on July 11th, at the County Hall, Spring Gardens. The chair was taken by Mr. W. H. Dickinson, chairman of the London County Council, and president of the society, and there was a large attendance of members from all parts of the country. Mr. Dickinson said he did not know that the public sufficiently realised how much it was indebted to the daily work of the inspectors of weights and measures. He could not speak for the country as a whole, but he could speak with confidence of the work of the Public Control Department of the London County Council. Last year there were no fewer than 67,000 inspections in London. Taking the last six years, he found that in 1894 there was in London one case in 22 in which the weights and



measures were found to be incorrect, in 1895 one in 31, in 1896 one in 35, in 1897 one in 38, in 1898 one in 42, and in 1899 one in 49. That showed a continuous improvement in the condition of affairs in connection with the trade of London. He believed a similar improvement was going on all over the country. It was said that people could not be made honest by Act of Parliament, but he believed they could be made a great deal more honest by a thoroughly efficient system of administration and inspection. After referring to the question of beer measures, he dealt with the practice of weighing the paper packet with the tea, and said that under this system the public of this country lost no less than £300,000 a year.

Mr. F. G. Bennett (Warwickshire) read a paper on the new Weights and Measures Bill, in which he criticized some of the clauses of the Measure, and suggested certain extensions. In the lobby there was an exhibition of weighing and measuring instruments. Most of the leading manufacturers sent exhibits embracing the latest designs in inspectors' appliances. In the evening the annual dinner was held at the Holborn Restaurant, Mr. Dickinson presiding.

The proceedings were resumed and concluded on July 12th. In the morning there was a meeting of members, when the general business of the society was transacted and the executive council elected. In the afternoon the concluding open meeting was held. Mr. W. R. Bousfield, M.P., presided over a good attendance. Mr. McDonald spoke on the Weights and Measures Bill now before

Parliament, and suggested certain amendments. In regard to tea and other goods in wrappers he suggested that the law should be altered so as to compel dealers to indicate on the wrappers the net weight of goods contained in them. He moved that amendments in this direction were desirable in the weights and measures law. This was seconded, and a long discussion took place, in the course of which several of the members urged that the society should use its utmost endeavours to deal effectively with the matter of short weight. One member recommended that the opinion of every one connected with the society should be taken on the subject of making the selling of tea and other goods under the net weight a penal offence. The motion was carried unanimously and it was agreed to forward a copy of it to the President of the Board of Trade. Mr. Street (London) moved "That in the opinion of the society the provisions of the Weights and Measures Acts relating to the verification, stamping, and inspections of weights, measures, and weighing instruments should apply to all weights, measures, and weighing instruments in use in the several post offices throughout the United Kingdom." The chairman said that the society had already expressed its opinion upon the matter, and clauses to carry out the object had been inserted in Bills introduced into Parliament, and the Postmaster-General had notified that he should offer the strongest opposition to them. The motion was adopted. A discussion then took place on the stamping of beer barrels, and practical illustrations were given of the gauging of beer barrels with the sliding rule. The meeting concluded with the usual vote of thanks.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**BUTTER AND MARGARINE PROSECUTIONS.**—At Boston, on July 31st, before Mr. J. Thompson (in the chair), and Mr. A. Rainey, William Darley, grocer, South End, was summoned by Mr. J. Stephenson, Inspector of Nuisances, for that he, on the 28th June, by the hands of Emily Darley, his wife and agent, did unlawfully sell to the prejudice of one Henry Atkin, labourer, the purchaser, a certain article of food, to wit, one pound weight of Danish butter, which consisted of 10 per cent. butter and 90 per cent. of foreign fat, and was not of the nature, substance, and quality demanded by the purchaser, contrary to Section 6 of the Food and Drugs Act, 1875.

Mr. R. W. Staniland (Town Clerk) offered to support the prosecution, and Mr. W. H. Gane defended.

At the outset, other magistrates being on the Bench, Mr. Gane said that as this was practically a prosecution by the Corporation, he thought it only right to point out that magistrates who were members of the Corporation should not adjudicate in the case.

Mr. Ranyell, said this would not apply to every member of the Bench who belonged to the Corporation, but only to those who were present when directions were given for the prosecution.

The Mayor (who is Chairman of the Sanitary Committee) vacated the chair, and Councillors Hunn and Harrison also retired from the Bench.

Mr. Gane said he had an objection to raise to the

proceedings before the Court, and was bound to do so at once to put himself in order. The date of the alleged offence was the 28th June. It appeared that Mr. Stephenson transmitted the article in question to the analyst on the 29th June. The certificate of the analyst (Mr. J. Baynes) was given on the 5th July, when he said "No change had taken place in the constitution of the sample that would interfere with the analysis." Then, although the certificate was given on July 5th, the summons was not issued till July 13th, and it was not made returnable until July 31st. Under the sale of Food and Drugs Act, of 1899, Section 19, it was laid down that when any article of food, or drug, had been purchased for testing purposes any prosecution under the Act in respect of the sale of such article should not be instituted after the expiration of 28 days from the purchase. Supposing the Bench decided to convict, and the defendant appealed against their conviction and desired to have a fresh analysis taken they would see that butter, being a perishable article, it would be impossible for a separate and independent analysis to be taken. Mr. Gane quoted the case of *Dixon v. Wells*, given in the *Law Journal Reports*. In that case 28 days had expired before the hearing of the case, and the Queen's Bench quashed the conviction, as the provisions of the Act had not been complied with and the magistrates had no jurisdiction. In the present case the date of the alleged offence was the 28th June, and the summonses was made returnable for July 31st. That was 33 days, and was, he contended, fatal to the hearing. In *Dixon v. Wells*, Mr. Montague Lush appeared for the appellant, and Mr. Kempe for the respondent. The respondent's counsel submitted that as the summons in that case was issued on the 14th October, and the offence was committed on the 20th September, they were within the time, but Mr. Lush, citing the case *Queen v. Hughes*, submitted that, independent of the Act not being complied with, the hearing took place more than 28 days after the



commission of the offence. That point was mentioned by Lord Coleridge, the Chief Justice, in giving judgment. The particular point raised by Mr. Lush, that the hearing had not taken place within 28 days after the commission of the offence, was fatal, and in a very long judgment by Lord Coleridge he went on to say, "I am by no means of opinion that this provision as to time is mere procedure. The enactment provides it as a condition precedent."

Mr. Staniland: I am sorry to interrupt my friend, but do I understand that the objection raised is under a section of the Act of 1899, which says that no summons shall be instituted except under 28 days? He is now quoting a case which seems to have been decided before 1899, and I want to know if his objection is under a section of that statute.

Mr. Gane: The section with regard to the Sale of Food and Drugs Acts, 1879 and 1899 are just the same, the enactment provides that certain things shall and shall not be done. I therefore contend that the magistrates have no jurisdiction, and that the conviction must be quashed. In the first place there is no summons, and in the second place there is none in time, and we say this is an attempt to try the defendant for selling a perishable article more than 28 days after the alleged offence took place. Mr. Gane contended that *Dixon v. Wells* was still a good and leading case with regard to procedure and the limit of time allowed. Mr. Justice Mathew said in that case, "It was an attempt to try the defendant for the sale of a perishable article after more than 28 days. I am of the same opinion, and agree that there was no summons at all. A summons can only be properly issued by magistrates when a *prima facie* case has been made out, and that was not done. The condition precedent was disregarded, and the defendant convicted of selling a perishable article after the expiration of the 28 days provided by the Section." In the present case, said Mr. Gane, 33 days had expired, or five days over the time allowed by the Statute. If the Court should decide to hear the case, he should ask that no evidence be taken but that a case should be stated, because it was quite clear the provisions of the Act had not been complied with, and the Court would be wrong in hearing the case after the very strong opinion expressed by Lord Coleridge and Justice Mathew. It was quite clear that this case was governed by the Act of 1899 and the former statute, and that the law he had quoted was fatal to it. This was apart from any *bona fide* defence, which they had. He knew the wording of the Act was "instituted," but the dictum of Lord Coleridge and Justice Mathew was quite clear as to what was meant by that. It was a perishable article, and the hearing must be within 28 days of the alleged offence. Further, in "*Stone*," the same procedure referred to the present case. It said "It would be very difficult to comply with the statute in county divisions. In all cases where it is applied, procedure should be instituted immediately after the analyst's certificate has been obtained." In this case analyst's certificate was obtained on the 5th July, and the summons was not taken out till July 13th, so that there were eight days more for the sample to go wrong in. If they asked for an independent analysis then it would be no use, as the constitution of the butter would be so much changed that no analyst could properly analyse it. Although the summons was not issued till July 13th, it was not made returnable till July 31st, so that a further period of time elapsed. He maintained that the whole statute had been disregarded in the way in which the summons had been issued, and that the magistrates were bound to dismiss it.

The Chairman: Your contention is that we are too late?

Mr. Gane: Yes, certainly; and if the Court desires to hear the case, then I ask for a case to be stated, because the section of the Act has not been complied with. Irrespective of the summons being wrongly signed by the chairman of the Bench, there is another fatal issue, and that is the 28 days.

Mr. Staniland: I am sure my friend would not wish to mislead the Court, but his argument is not consistent. He has quoted the Act of 1899, which provides that these proceedings shall not be instituted more than 28 days after the commission of the offence. He then cites a case, not under a section of the Act of 1899, but under a section of the Act of 1879—which I asked him to read, but which he carefully abstained from doing—which is to an utterly different effect altogether. Section 10 of the Act of 1879 runs as follows: "In all prosecutions under the principal Act, and notwithstanding the provisions of Section 20, the summons to appear before the magistrates shall be served on the person charged with violating the provisions of the Act within a reasonable time, and in the case of a perishable article within 28 days, and the summons shall not be made returnable in a less time than seven days from the day it is served upon the person summoned." In the Act of 1899 not a word is said about the time of the hearing of the summons. The only limitation is 28 days before the institution of proceedings.

Mr. Gane: Oh, yes; about the service of the summons with 14 days.

Mr. Staniland: You will see that not a word is said about limitation of the time for hearing of the summons, but there is a limitation of the time for the taking of proceedings.

Mr. Gane: "Shall not be made returnable in less time than 14 days." It is the same thing in the new Act and the old one. It is the same section over again.

Mr. Staniland: "And the summons shall not be made returnable in less than seven days from the day it is served upon the person summoned." The case quoted by Mr. Gane was clearly within the Section of the Act of 1879, and there was no doubt the Judges were perfectly correct in deciding as they did under that Act. If his friend could show that the law had not been complied with he had a valid objection, but he had quoted a case which was decided under an entirely different Act which had long since been repealed.

Mr. Gane submitted that Section 10 of the Act of 1879 were precisely the same as the Act of 1899 with regard to the 28 days. The Act of 1879 certainly provided that proceedings should not be commenced within less than seven days, otherwise it would be fatal. But that was not the point in *Dixon v. Wells*, because the more than seven days were given to the defendant to prepare for his defence. The only point raised under that Act which governed the proceedings under the new Act was that the case must be heard within 28 days after the commission of the alleged offence.

At the request of the Bench, the solicitors submitted their views concisely, as follows:—

Mr. Gane: My objection is that more than 28 days having elapsed since the commission of the alleged offence and the hearing, the Justices have no jurisdiction, and I quote the case of *Dixon v. Wells*, 59, *Law Journal Reports*, page 116.

Mr. Staniland: I say that under the Act of 1899, section 19, a summons must be served within 28 days of the commission of the offence, and the hearing must be served within 14 days of the date of service of summons. That the case quoted by Mr. Gane, *Dixon v. Wells*, was not a decision on the Act of 1899, but on Section 18 of the repealed Act of 1879. It is admitted in that case that the summons were not served in accordance with the provisions of the Act of 1879, and the only decision of the Judges is that the regulations of that Act must be strictly complied with, and were not merely matters of procedure. The decision of *Dixon v. Wells* was before the Act of 1899, and has no bearing upon it.

The Bench retired, and were absent half-an-hour. On their return into Court,

The Chairman said: We have carefully considered the objection taken by Mr. Gane, and we hold it to be a good one.



Mr. Gane: Then the summons is dismissed. Seeing that this summons has been issued practically by a public body, I ask that it be dismissed with costs.

The Chairman: No, we cannot do that.

Mr. Staniland asked if the Bench would grant a special case on a point of law.

Mr. Gane: My friend having made that application, it is entirely in the discretion of the Justices whether they grant it or not.

The Bench allowed a case to be stated, and Mr. Staniland afterwards submitted his application through the Magistrates' Clerk.

THE case, *Bridge v. Gibbon*, was heard at Tottenham on July 26th. Defendant being charged with selling butter containing 70 per cent. of foreign fat, and also with selling same in an unstamped wrapper. Mr. Gibbon was defended by Mr. J. Avery.

Miss D. Vernon said: On June 29th I was sent by Mr. Bridge into Gibbon's shop, Edmonton, to purchase half a pound of butter. After I had received it Mr. Bridge came in and I handed it to him. He told Mr. Gibbon that it was purchased for analysis by the public analyst.

J. W. Auty said: I was with Mr. Bridge and Miss Vernon on the 29th of June, at Edmonton, and heard him send Miss Vernon into Gibbon's for half a pound of cheese and half a pound of butter, and saw him give her a note with the names of the articles. I stood on the opposite side of the road about twenty yards higher up. I saw her go in and afterwards saw her come to the door. I signalled Mr. Bridge and we went into the shop immediately. Mr. Bridge said these goods have been purchased for analysis by the public analyst. Gibbon said I know nothing about them; they have not been got here. Mr. Bridge requested that the man who served her be called in; a young man was called and she recognised him at once as the person who had served her. He denied doing so—saying he had been upstairs the last half-hour cutting paper.

Mr. Bridge said: On the 29th June I sent Miss Vernon into defendant's shop for half a pound of cheese and half a pound of butter. Mr. Auty, my assistant, went to a point where he could see her enter and leave. I entered and told Mr. Gibbon I had bought the articles for analysis. He said, I know nothing about it. I said, your name is on the bag. Miss Vernon gave me the note I gave to her. I said, where is the person who sold it. Miss Vernon said he had gone out at the back. He was called in and she said that is the person who served me. Mr. Gibbon said: Where did you get it from? He replied: From the far tub. I then divided the cheese and sealed and numbered it; and there again told him the butter was for analysis by the public analyst. I had to complain about one of the assistants who threw some paper on the counter in such a way as to interfere with the division of the samples. The name of the person serving I found to be Edwin Gibbon.

Mr. Gibbon then went into the witness box and was sworn. He said, I had been in the shop two hours (never left it) before Mr. Bridge came in and I never noticed the girl come in. Mr. Bridge came in and said, I have bought this for analysis; he has been away, but it does not matter, this is your bag. I did not serve her, no one had been behind my counter for 20 minutes, and she could not have been served from behind my counter. Both my assistants were engaged. Edwin was upstairs for twenty minutes, another was dressing the stall outside, and the other one dressing the window. The paper complained about had been cut. The bags are used outside by stalls. My son came down and she said, that is the man. Nothing was said to my son. As the sample was divided I noticed something strange about it; my butter was coloured, but this was pale. I called Edwin down and said, what did you give that girl? He said I did not serve her. I am certain he did not say it was taken from the far tub.

Edwin Gibbon was then called. He said: On the morning of the 29th June I was upstairs cutting paper for the shop. Father called me down. When I got down the girl was with Mr. Bridge. I heard some remark made, and she said, yes, that is the man. I was asked if I had served the girl. I said I did not recollect serving her with anything. I had not been in the shop, but upstairs for over twenty minutes, and during that time had served no one.

Mr. Avery then spoke in defence. The Bench retired, and, on returning into Court imposed fines of £5 and £1 costs.

At the Doncaster West Riding Police Court, on August 11th, Sarah Oxley, grocer, Balby, was summoned for selling adulterated butter. Mr. Joseph Wilson, Inspector under the Food and Drugs Act, said he went to the defendant's shop on the 3rd ult., and bought one pound of butter, for which he paid a shilling. On being analysed, it was found that it only contained 10 per cent. of real butter. Mr. Baddiley, for the defendant, said she had given a good price for the article, paying 11d. per pound. Defendant had only purchased small quantities at a time, and was not aware that it was not good butter. Defendant's husband said the butter was purchased from the Cumberland House Provision Stores. They had since given the business up. Defendant was ordered to pay the costs.

COFFEE PROSECUTIONS.—At Winsford, on August 13th, a fine of 20s. was imposed on George Fernyhough, grocer, Winsford, for selling coffee adulterated with 35 per cent. of chicory. Inspector Timmis stated that the amended Food and Drugs Act provided that mixtures such as coffee and chicory should be stated on the wrappers, devoid of any other printing. Defendant neglected to do this, as he had written it on an advertisement wrapper.

Sarah H. Taylor, grocer, Brown Street, was summoned for selling coffee adulterated with 50 per cent. of foreign vegetable matter, on the 21st June last. Mr. W. F. Taylor (Town Clerk) prosecuted, and stated that Albert Hulme, assistant inspector under the Food and Drugs Act, went to Mrs. Taylor's shop on the date named, and asked for  $\frac{1}{4}$ -lb. coffee. He was supplied with an article by a Miss Salt, an assistant, which, upon subsequent analysis, was found to contain 50 per cent. of foreign matter, probably chicory. When witness was served Mrs. Taylor came into the shop, and said the coffee supplied was a mixture. Inspector Hulme was called and bore out this statement. Mr. Hastings, for the defence, pleaded guilty, and expressed sorrow on behalf of the defendant. The latter, however, he said, sold very little coffee, and as a matter of fact, people preferred their coffee mixed with chicory, and the only offence committed was that Hulme was not informed that the article was a mixture. The Bench imposed a fine of 20s. and costs.

SALE OF UNFIT TINNED FOOD.—On August 10th, in the London Sheriff's Court, before Mr. Under-Sheriff Burchell and a jury, an important action concerning the sale of unsound tinned food was tried and the assessment of damages claimed. The parties to the action were Messrs. David Challin and Co., wholesale grocers, of Kingsland (plaintiffs), and M. Schaal, a French exporter, carrying on business at Paris (defendant).

Mr. Nield, counsel for the plaintiff, said the case was an extremely bad one. The plaintiffs were large dealers in tinned goods, and purchased tinned sheep's tongues from the defendant in large quantities. These were labelled as "The Cornet Brand," and sold to grocers in England. In February and March of this year plaintiffs purchased 200 dozen tongues from defendant. These were sent out to customers in various provincial towns, and after a while 116 dozen were returned as unfit for food. In Reading the sanitary authorities stepped in and condemned a large consignment there. These were absolutely unfit for food, and had to be interred to prevent mischief. As a result



the plaintiffs' brand was ruined, and he had sustained considerable loss. The Sheriff: Is defendant here? Counsel: No; being a Frenchman, he does not care for English tribunals. After evidence had been given the jury awarded £100 damages.

**SPIRIT ADULTERATION PROSECUTIONS.**—Mr. W. H. S. Crabtree, the Inspector under the Food and Drugs Act, visited the Devonshire Arms Inn, South Normanton, on June 19th, and there he bought half a pint of whisky, which was supplied by the landlord, Frederick Chase. The whisky was proved under proof, and defendant was fined at Alfreton, on July 27th, £1 17s. 6d.

At Atherstone, on August 7th, Matilda Miller, landlady of the Blue Boar Inn, Mancetter, was summoned for selling adulterated whisky. She was fined £1 and costs.—William Blower, landlord of the White Horse Inn, Atherstone, was summoned for a similar offence, and was ordered to pay £1 11s. 6d.—Arthur George Tabberner, late landlord of the Royal Oak Inn, Atherstone, was also summoned for adulteration. Defendant said the officer who summoned him drank two or three glasses of whisky, and yet he complained of its strength. The officer replied that all he drank was one glass. Defendant was fined £2 and costs.

At Porth, on August 9th, Jane Lewis, Bridgend Inn, Pontygarth, was charged with selling gin 43½ deg. under proof. Mr. James Phillips, Pontypridd, defended.—Supt. Cole proved the case, and defendant was fined 20s. and costs.

Luther Griffith, Farmers' Arms Inn, Merthyr, was summoned for selling to Inspector Canton whisky which, upon analysis, proved to be 30¼ degrees under proof. Mr. Beddoe, who defended, raised the objection that the analyst's certificate was not in proper form, but the objection was over-ruled, and the defendant was fined 10s. and costs.—John James, landlord of the Red Lion Inn, Merthyr, for whom Mr. W. W. Meredith appeared, was summoned for selling whisky 41½ degrees under proof and gin 39½ degrees under proof. He was fined £2 and costs in respect of the whisky and 10s. and costs in respect of the gin.

At Mountain Ash (before Mr. T. Marchant Williams, stipendiary, and other magistrates), William Games, of the Junction Hotel, Abercynon, was summoned for selling whisky 39¼ per cent. under proof and brandy 50¼ under proof. Mr. W. Kenshole defended, and took a preliminary objection to the form of the summons, as it did not disclose any offence. He also took two objections to the form of the certificate. In the first place, the certificate did not show a complete analysis of the sample. It only said that it contained 61.31 per cent. of water and extracted matter. The percentage of water and of extracted matter should be given. The weight of the sample was also not given on the certificate, as requested by the Act of Parliament. The Stipendiary over-ruled both objections, but promised to make a note of both points. Fines of £3 and costs were inflicted in each case.

**BORACIC ACID IN CREAM.**—Referring to the prosecutions at Brentford for selling cream containing boracic acid, when the adjourned cases against Sainsbury, Baker, and Buckle and Barker came up on August 9th, Dr. Herbert Smith said that since the last hearing Mr. F. W. Beck had conferred with his clients, and had now intimated his willingness to abide by the same order that had been made in the other cases. The Chairman said the Bench were very glad to acquiesce, and an order would be made accordingly to the effect that the defendants would be bound over to come up for judgment when called upon; that they should pay the costs; and that they should undertake, pending the report of the Board of Trade, not to sell cream containing more than 0.30 per cent. of boracic acid. Dr. Herbert Smith said that as these defendants had had their cases adjourned they ought to pay the extra costs. The Bench agreed, and made an order that the three defendant's whose cases were settled at the first hearing

should pay fourteen guineas and the other three seventeen guineas.

**MUSTARD ADULTERATION PROSECUTIONS.**—At Reading, Otto Thomas, 22, Caversham Road, was summoned for selling adulterated mustard. Mr. Eyles defended. Ernest Kimber proved the purchase of the mustard, which contained 10 per cent. of wheat flour. In reply to Mr. Eyles, Kimber said he was first offered a tin of mustard, but he persisted in having it loose. Inspector Robertson said it had come to his knowledge that mustard mixed with wheaten flour was as good as pure mustard, but he had not heard that it was preferred to the pure article. Mr. Huggins told him he had served Colman's mustard. He was not aware that Colman's mustard was dearer than anybody else's. In reply to Mr. Jones (magistrates' clerk), witness said he knew it was a common practice to mix mustard with other ingredients. Mr. William Bonney, grocer, etc., Oxford Road, said the practice of the trade in regard to condiment was to label the article in such a way that the purchasers knew what they were buying. Pure mustard was as cheap as mixed mustard. He was of opinion that it was to the disadvantage of the retailer to sell the latter article. Dr. Ashley said wheaten flour, which was added to the mustard served by defendants, was not injurious to health. Mr. Eyles contended that there was an entire absence of intent to defraud. An article of commerce had been served which was good value for money, and the mixture was in no way injurious to health. A condiment was preferred by the public to pure mustard as being more palatable. The advantage in regard to the article served rested entirely with the purchaser. Thomas Faulkner, an assistant to the defendant, said Kimber asked for 2 oz. of loose mustard. The manager, Mr. Huggins, was present at the time. Witness was about to serve Kimber from a drawer when the manager told him not to sell that mustard, as it was stale, but to turn out a 2-oz. tin of Colman's. He showed the tin to Kimber before turning the mustard out, and asked him if he would have it that way, and he said "No; I want the loose mustard." George Huggins, defendant's manager, said that on the inspector entering the shop he informed him that Kimber had been served with 2 oz. of Colman's mustard from the tin produced, which he (witness) believed to be pure. Nothing was gained by serving the mixed article, as pure and the mixed cost the same. Stanley W. Silbey, manager of defendant's Reading branches, said that almost invariably the mixed article was preferred. The Chairman said the case was not without some difficulty. Their view of the law was against that held by Mr. Eyles, and in regard to the facts they thought the prosecution had proved their case. At the same time the case was a small one and would be met by a very small penalty. There was no intention to defraud, but at the same time the public were entitled to get what they asked for. They therefore imposed a fine of 5s. and costs, £1 4s. 6d.—Henry Webb, grocer, 35, Minster Street, was summoned for a similar offence. Mr. Eyles defended. The offence was admitted, but Mr. Eyles observed that the mustard was served in error by the errand boy whilst the manager was at tea. The mustard supplied was for poultices and would not have been served in the ordinary way of business. The analyst's certificate showed that the mustard was adulterated to the extent of 20 per cent. The Bench said they could not treat this case as they had the other one, as gross carelessness was shown. A fine of £2 would be imposed, with costs.

**WEIGHTS AND MEASURES PROSECUTIONS.**—Charles Percy Bannister, was summoned at Buxton on July 21st, for carrying out and delivering bread from a cart without being provided with a correct beam and scales with proper weights on the 12th ult. Mr. Crabtree, Inspector of Weights and Measures for the County Council, said he saw Ernest Bannister, the defendant's son, delivering bread. He had no scales, weights, or balances in the cart. Defendant's son acknowledged that he delivered the bread in this case without weighing. He forgot the scales. Fined 20s. and costs.



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## Food and Sanitation.

SATURDAY, SEPTEMBER 1, 1900.

### Dietetic and Hygienic Notes.

#### What is Vinegar?

IN his annual report to the Vestry of St. James's, Westminster, S.W., Dr. James Edmunds, the public analyst and medical officer of health says:—Four vinegar cases were tenaciously defended by manufacturers standing in the background. The reserved portions of the four samples were referred to the Government laboratory; the reports returned abundantly corroborated each of the four analyses on which the Vestry of St. James's had based their proceedings. Convictions followed in all the four cases. Vinegar is one of those articles for which there is no legal standard. It is not now necessary that even beer be brewed from barley and hops. Beer now may be brewed

from anything that can be made to ferment, and it may be bittered and flavoured with anything which can be made to serve as a "hop substitute." In the phraseology of the brewing-room, the term "malt" has been extended so as to include not only malted barley, but also an extensive list of other materials which the public do not in any sense regard as "malt." Similar materials are now used for the brewing of vinegars, even for some of those sold as pure malt vinegars. I submit, as a governing principle, that no one ought to manufacture an article of food for public sale with any water other than a good drinking water. If, in order to save a water-rate, water from unsafe surface wells be used in dairies, experience shows that typhoid fever is often disseminated among those who consume the milk. Such water is inadmissible as a medium for the preparation or manufacture of food. If, again, a vinegar manufacturer wishes to put gypsum into his vinegar, that is "a foreign ingredient," and—unless shown to be necessary for the manufacture or preservation of the vinegar—the introduction of gypsum is an adulteration. It may be urged that the amount of vinegar drunk at any one time is so small that the gypsum taken into the system cannot be injurious to health. In the case of vinegar this is probably true, and the same might be said as to the sale of vitriol and water as vinegar. But this use of gypsum in white wines and pale ales has become a serious and systematic adulteration—an adulteration which produces a large amount of gout and rheumatism, and of other degenerations of tissue which prematurely age and cripple the consumers of such liquors. Now, if a manufacturer does not like to buy his gypsum by the ton from the Stogumber quarries and put it into his vat out of a sack, is he to be allowed to bore a well into a vein of gypsum and pump up into his vat water which is merely a solution of gypsum? If this be manufacturing "a pure malt vinegar from nothing but malt, and yeast, and spring water," then it is clear that the London manufacturer, who uses a water free from such minerals, is entitled to put gypsum in out of a sack. Is a pickle-maker entitled to dig a well into a copper mine, to pump up water containing copper, and to use that water to colour his pickles up to the morbid grass-green that ignorant people admire? In fact, if it be not a governing principle that nothing but "a good drinking-water" should be used for the manufacture of articles of food, where are we? By "a good drinking-water" I mean a water such as is eligible for a municipal water supply. By the term "malt" the public understand malted barley. Malted barley is, in fact, the base of what the purchaser expects when he buys "malt liquor" or "malt vinegar." But, in the phraseology of the brewing-room, the term "malt" is now used to include cargoes of damaged maize, rice, and other grains which have had to be reduced into a fermentable condition by steeping with diluted vitriol at a high temperature. And there is no Act of Parliament against calling such materials "malt." A vinegar manufactured in the way which the public expect when they buy "a pure malt vinegar" contains nothing except what has been brought into it by the barley, the yeast, and a good drinking-water.



PURE, WHOLESOME, DELICIOUS.

# BIRD'S CUSTARD POWDER

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and successful Housekeeper.

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## Preservation of Eggs.

KARL REINHARD, of Kaiserslautern, recommends a treatment with sulphuric acid. The processes hitherto proposed for preserving eggs are mostly confined to surrounding or coating the eggs with a substance intended to stop up the pores of the shell. Water-glass, lime-milk, etc., have been proposed for this purpose, which do not enter into a chemical combination with the egg-shell. The methods consisting in mechanical covering of the eggs present the drawback that the eggs treated in this manner acquire an insipid, lixivious taste and odour, and that a true preservation does not take place, because the access of air through the pores of the coating and of the egg-shell is not fully prevented by the enveloping substance. In contra-distinction to this known process, the Reinhard method is said to cause chemical changes in the surface of the egg-shell, whereby it is closed up perfectly air-tight, access of air being thus entirely prevented, even in case of long continued-storing. The eggs are for a short time exposed to the action of sulphuric acid, whereby the surface of the egg-shell, which consists chiefly of calcium carbonate, is transformed into calcium sulphate. The dense texture of the surface thus produced is said to secure complete protection against the action of the outside air, so that the eggs thus treated may be stored for a very long time without their contents suffering any change in taste and odour. The egg does not require any special treatment to prevent cracking on boiling, etc. The *Scientific American* calls attention to the fact that some time ago oxalic acid was recommended for this purpose, which is evidently entirely analogous in its action to sulphuric acid. What speaks in favour of the latter is its destructive action upon the bacteria contained in the shell.

\* \* \* \*

## How to Make Good Coffee.

THERE is absolutely no mystery about its preparation, says *Health*, and the only care needed is to roast the berries to a nicety. If coffee is not sufficiently roasted, the true flavour will not be extracted, and if roasted for too long a time it becomes bitter. Various machines are used for roasting, but the simplest, perhaps, is a frying-pan. The coffee should be washed previously, then place the beans in the pan over not too fierce a fire, and stir them gently with a spoon until they are of a dark mahogany colour, but not black; take them off the fire and allow them to cool. No interval should elapse between roasting and grinding, and the oftener it is roasted the better. For all ordinary purposes twice a week is sufficient. No one who desires good coffee can get on without a coffee-mill, which is easily obtained at a small cost in any size. It is a bad plan to let the grocer grind the berry and send it home at his convenience, for this means a lapse of time between the grinding and the making, which is quite fatal to the preservation of the aroma. In many Eastern countries the beans are pounded in a mortar instead of being ground.

Coffee beans should be kept in a dry place, and are greatly improved for keeping a long time. The neat-handedness and judgment so necessary for cooking an omelet are quite as much required for the perfect making of coffee. As soon as the coffee is ground, no time should intervene before the boiling water is poured upon it, and even in applying the water there is something in the dexterity with which it is done. More strength is obtained by simple boiling than by any other plan; but we must take care not to over boil it. The water must be simply boiling. If the coffee is put in all at once the coffee-pot or pan should be placed over a gentle fire and just allowed to come up to the boil two or three times, and each time quickly removed. Before letting it settle, pour out a cup or two of the liquid and immediately return it to the vessel, or else pour in half a cup of boiling water. Then place it near the fire for a few minutes, and pour it out gently or strain through a fine filter or flannel bag into the coffee-pot for the breakfast table. If the coffee is desired extra clear, a raw egg should be whisked up—shell and all—in a slop basin full of coffee powder, and boil as before.

\* \* \* \*

## The Digestion of Proteids.

In a paper on "Intestinal Digestion and Its Consequences," published in a recent number of the *Philadelphia Medical Journal*, W. H. Porter says in part:—

The proteids, or true tissue-builders, all enter the alimentary canal in the form of an alkali-albumin, either in the polymeric state, as found in the vegetable kingdom, or in the "monomeric" form common to animal fluids and solids. In the alimentary canal the polymeric form must first be transmuted into the simple form. This accomplished, the alkali-albumin is acted upon by the hydrochloric acid, and isomerically transmuted into acid-albumin, after which it is further acted upon by the ferment body pepsin and transmuted into a series of albumins, and finally into a true peptone, which is the only form in which a proteid can be taken up by the epithelial cells of the alimentary canal. The larger percentage of the proteid in the food-stuffs, however, passes through the cavity of the stomach into the intestinal canal unpeptonized. Thus we find that function of the stomach is chiefly that of a storage and macerating tank, the major portion of the proteids, as well as the starches, sugars, and fats, being transmuted in the intestinal canal. The ferment body trypsin, secreted by the pancreatic gland, together with the proteolytic ferments of the bile and intestinal secretions, complete the peptonization of the proteids. When they have all been converted into this particular form in which the proteid can be drawn into the protoplasmic substance of the epithelial cells they are absorbed by these special cells. After the peptone has gained access to the protoplasm of these cells, of which there are several distinct sets as regards their function, it is further isomerically transmuted in its passage through these cells. One set of cells discharging the contained proteid into the entero-hepatic blood-stream as serum-albumin, so-called; another as serum-globulin, so-called, and another as fibrinogen, so-called.

If the transmuting function of these cells is overtaxed, the peptone may be discharged as such into the entero-hepatic blood. The peptone being a toxic form of proteid, when it reaches the hepatic gland the epithelial cells of the liver take up the peptone and transmute it into a non-toxic form, in a manner similar to that of the cells of the intestinal canal when they are performing their function normally, thus preventing general toxemia from the peptones.

\* \* \* \*

## Concentrated Foods.

FEW subjects are more interesting, says the *Medical Review*, than dietetics, and no branch of dietetics has received more attention than that concerned with the



preparation of concentrated foods. Yet apart from emergencies and economic considerations there seems to be little advantage in such preparations, while there is always this disadvantage that in bulk the food is insufficient to stimulate efficient intestinal peristalsis. Peristalsis in the stomach seems largely independent of bulk of food; but peristalsis in the intestines is undoubtedly promoted by distention of the bowels (even as cardiac action by tension of the heart muscle), and this latter fact has a very interesting illustration in the Nordrach treatment of phthisis, which treatment, involving the inception of large quantities of food, usually completely cures constipation. The ideal—the “multum in parvo”—sought after in the various concentrated foods, however plausible, is physiologically false. Digestion has two sides—chemical and mechanical—and these are co-operative and mutually dependent. From mastication to complete

digestion the motor and secretory phenomena are concomitant; and the motor side of digestion and indigestion cannot be neglected. Even apart from the action of peristalsis in trituration and in the emptying of the lacteals, it must be remembered that motor nerves are also vasodilator, and that vascular activity is an essential preliminary to secretion. Muscular atony, vascular insufficiency and digestive debility are closely correlated. It must be remembered, too, that digestion is not a single local process, but a consecutive series of processes; and that intestinal stagnation will interfere with the normal sequence of these. Thus, the pancreatic flow reaches the maximum at a certain time after the inception of food, and it is reasonable to suppose that the food should be in the duodenum at the period of this maximum flow, and that any delay in some degree interferes with digestion.

## Official Reports and Notes.

### Increase of Milk Adulteration in Birmingham.

THE Birmingham City Analyst (Dr. A. Hill) reports that Inspector Jones submitted 276 samples of food and drink to him during the last three months. Twenty-one samples, or 8 per cent., were condemned because of the presence of preservatives, and nineteen samples, or 7 per cent., were adulterated in other ways. Of the sixty-two samples of milk analysed, nine samples or 15 per cent. were adulterated with formic aldehyde, and fifteen samples, or 24 per cent. had been sophisticated in other ways. In both respects these figures are worse than those of any quarter since the year 1895. Five samples were adulterated with 21 to 37 per cent. of water, five samples were deficient in fat, two of them also containing boric acid, and five samples had been both watered and deprived of cream. In addition to these, ten samples, or 16 per cent., were of low quality, containing less than 12 per cent. of total solids. Eleven of the fifteen samples obtained from farmers and wholesale dealers were either adulterated or of low quality; while fourteen of the forty-seven retail samples were similarly defective and nine others contained formic aldehyde. Four samples were obtained from one farmer, and contained 23 to 47 per cent. of water, and another also came from him through a retailer. Two samples were obtained from a vendor who was seen by the inspector to add a white powder from his pocket to the milk while in his cart going his rounds. On analysis this white powder was found to be mainly composed of borax. None of the forty-six samples of butter received contained foreign fat, but twelve samples, or 26 per cent., were adulterated with boric acid. One sample contained 0.9 per cent. of boric acid, and the vendor was fined £3, and 9s. costs. The single sample of margarine had been exposed for sale without its being properly labelled, and the vendor was fined £2 and 8s. costs, under the Margarine Act. Thirty-six samples of cheese and one sample of skimmed cheese were all free from adulteration. The Sale of Food and Drugs Act, 1899, which came into operation this year requires that all samples of cheese containing foreign fat shall be marked “margarine-cheese” when they are exposed for sale. Two samples of margarine cheese were exposed for sale without any label being placed on them. In one case a fine of £1 and 8s. costs was imposed. In the other the vendor was ordered to pay 8s. costs, and the assistant who sold the sample was fined 10s. and 10s. costs. Fifty of the fifty-three samples of coffee were genuine, but the three contained large quantities of chicory, and fines were imposed in each case. One of the twelve samples of Demerara sugar was adulterated, consisting of dyed sugar crystals. Full particulars of the circumstances under which the

case was dismissed were given in the last quarterly report. Twelve samples each of malt vinegar and flour, eleven samples each of white pepper and oatmeal, eight samples each of bread and arrowroot, and the single sample of baking powder were all found to be genuine. In the various cases in which prosecutions were undertaken the average fine inflicted was £1 15s. 2d. The legal costs paid by the vendors amounted to £8 17s.

\* \* \* \*

### The Adulteration Acts in Durham.

THE Chief Inspector for the County of Durham, Mr. Scott Elder states that during the quarter County inspectors submitted to the County Analyst 174 samples, obtained with discretion, from various parts of the county, and eleven prosecutions had been instituted. Golden syrup samples had again been the subject of proceedings, two of the samples containing as much as 80 per cent. and 89 per cent. of glucose syrup respectively. In the latter case the retailer died before the service of the summons, but in the former he was able to trace the sample from a mining village to a large centre and thence to the manufacturers, who were themselves brought before the magistrates on a charge of giving a false label, and were fined. It would readily be seen that to reach the real defaulter it was sometimes necessary to change the venue from one petty sessional division to another, and as the retailer's name was often never mentioned, while the wholesale dealer was brought to task, many good folks thought that the case had been allowed to drop, and probably also that some favour had been shown. One of the magistrates had conveyed to him the fact that this impression was abroad, and suggested that he should state publicly to his bench the real facts, and it was needless to say that he most readily agreed to the suggestion. Out of fifty-one samples of jams, jellies, and marmalades, purchased during the past six months, only three prosecutions had been instituted. Several samples had been certified to contain a small proportion of glucose, but for various reasons it appeared to be inadvisable to take proceedings with regard to these at present. In the three cases mentioned 25 per cent. of apple pulp was found in bramble jam, and interesting proceedings had arisen therefrom. They were all practically the same case (although different years' jams), and were all defended by the same wholesale firm. One case resulted in a penalty of 40s. and costs, while before a different bench the second case was dismissed, and the third case, which came before another bench, stood adjourned. It was contended for the defence in the second case that there was no standard for bramble jam, and that, therefore, it was allowable to add apple



pulp. But it was admitted (1) that 25 per cent. was a large proportion; (2) that only 10 per cent. was intended to have been added; and that (3), that a mixture of bramble and apple jam was cheaper than pure bramble jam. At the request of the wholesale firm a portion of the sample was submitted to the analyst at Somerset House, who gave a certificate corroborating the County Analyst in every particular. When the case was dismissed by the Stanhope Justices he consulted the clerk of the council and he had taken the necessary steps for appealing to the High Court. The third case stood adjourned pending the result of the appeal. He had considerable trouble recently with manufacturers respecting the labels used on their tins of condensed separated, or machine-skimmed milk, and no doubt many of them exposed themselves to the risk of prosecution, but as the Act relating to the matter was comparatively new he accepted their offer to rectify matters at once. Condensed separated milk was almost entirely devoid of fat, and therefore contained little, if any, nutriment. It was stated to be necessary to consume the contents of at least ten half-pound tins of condensed separated milk in order to obtain the nutriment yielded by a pint of good new milk. [Report of the Local Government Board, 1898-99.] The Act provided that the words "Machine skimmed milk" should be printed in large and legible type on a label clearly visible to the purchaser, and it was the intention of the Department to see that this simple provision was complied with. He had again to complain of the extreme reluctance of traders to tell him the bare facts necessary to reach the wholesale firms, who were mainly responsible for adulteration. A few questions which he addressed to a trader recently and his replies thereto were as follows:—Q. What is the date upon which you received the consignment? A. Cannot say. Q. What is the date of the invoice? A. Have not got it. Q. What is the date of your order? A. Have not got it. Several samples of ice-cream had been submitted to analysis during the quarter, and so far as the Food and

Drugs Act was concerned they had proved satisfactory. There was, however, no defined composition for this confection, so that it was almost impossible that it could be sold to the prejudice of purchasers.

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#### Adulteration in Hereford City.

THE report of the City Analyst for the quarter ended June 30th, 1900, states that during the quarter ended June 30th last, Dr. Bostock Hill received thirteen samples of food from Inspector Protheroe for analysis, as follows:—Milk 7, whisky 3, gin 2, and rum 1. One sample of gin was adulterated with 11.5 per cent. of water, but the other samples were genuine.

\* \* \* \*

#### Food and Drugs Act in Forfarshire.

A MEETING of the Public Health Committee of the Forfar County Council was held in Forfar. Mr. J. G. Soutar, Westhall, was elected Chairman. The Clerk (Mr. Myles) submitted a suggestion by the Government Inspector that an arrangement should be made between the County Council and the Commissioners of Police Burghs, with a view to the administration of the Food and Drugs Acts within these burghs by the county authority. Mr. Myles said that the object was to see that the Acts were properly administered both in the county and in the burghs. For some time past there had been very little done in Forfarshire in the administration of the Acts, and the Inspectors suggested that in a county like Forfar they should work up to some definite standard, and suggested as a minimum that one hundred samples should be taken every year in the county. These samples did not include water. After discussion it was resolved to communicate with the police burghs with a view to securing their co-operation with the county, and that county officials were instructed to be more active in carrying out the provisions of the Acts.

## Cold Storage Notes.

### Importation of Natural Ice.

THE natural ice imported into the United Kingdom last year, it is stated in a recent number of *Cold Storage*, amounted to 505,142 tons, valued at £317,190, all of which with the exception of 515 tons valued at £308, came from Norway. This is the largest quantity ever yet received. Cargoes were shipped to 32 ports, of which London, with 220,430 tons, valued at £134,528, Grimsby with 84,325 tons, valued at £42,555, Hull with 22,920 tons, valued £18,771, Liverpool with 20,212 tons, valued at £13,832, and Glasgow with 16,690 tons, valued at £13,709, took the bulk. The average price of the ice was 12.55 shillings last year. In 1884 the price was 18.05 shillings, and in 1897 only 10.91 shillings. Practically all this ice is retained for home consumption, in addition to the immense quantities now being turned out at the ice factories scattered through the United Kingdom. Last month when the weather was so hot 68,305 tons, valued at £41,786, were imported, of which 34,450 tons, with a value of £20,989, were brought to London.

\* \* \* \*

### The Growth of the Ice Habit in England.

THE United States Consul at Birmingham, Mr. Marshal Halstead, has forwarded a report to the Bureau of Foreign Commerce at Washington upon "The growth of the ice habit in England," in which he says that to-day "all first-class hotels have a few small lumps swimming in a glass dish, and you pick these out with sugar tongs; and in country inns and even in second-class public houses they apologise for not having it. Properly handled, there

is a good opportunity in England for American refrigerator manufacturers. Cold storage is a growing business here, and large brewers are putting in extensive cold-storage machinery plants; but American manufacturers in this line are not, to my notice, in evidence."

\* \* \* \*

### Brewers' Cold Hop Storage.

A YEAR ago the wholesale brewers of Birmingham and the district resolved to initiate a cold storage for hops in the Midlands. It happened that premises, admirably suited for the purpose, were at hand, in connection with the premises known as Butler's Crown Brewery, in King Edward's Place, owing to the amalgamation of Messrs. Mitchell and Butler's. Accordingly, Messrs. Harrop and Duffield, consulting engineers and architects, of Bridge Row, Cannon Street, London, were commissioned to turn part of the Crown Brewery into cold storage premises, and under their superintendence storage to the extent of ten thousand pockets was provided. Within a brief period a great part of the accommodation has been taken up by Birmingham and Midland brewers, and it is evident that the entire space at disposal will soon be utilised. The enterprise has been carried out by a limited company.

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### New Engineer for the Bolton Cold Stores.

THE Cold Stores Sub-Committee received 118 applications for the post of engineer, and out of eight applicants subsequently interviewed, George Tomlinson, Bury, was selected to take charge of the gas engine and the refrigerating plant.



## Weights and Measures Notes.

### Prosecutions at Bridgwater.

At Bridgwater County Petty Sessions, James Kidner, farmer, of Wembdon, who was represented by Mr. H. W. Chapman and pleaded guilty, was summoned for having in his possession a weighing instrument which was not stamped. Mr. Crick proved visiting defendant's premises and finding the instrument in the dairy where butter was weighed. It had not the verification stamp upon it. Mr. Chapman pointed out that the instrument was in favour of the purchaser, and he thought the case was one that might well be dismissed on payment of costs, as the scales were simply used for domestic purposes, and it was an oversight they were not stamped. The Bench thought the case an unusual one, and fined defendant 1s. and costs.—Wm. Drake Knight, farmer, of Chilton Trinity, who did not appear, but was represented by Mr. F. W. Bishop, was summoned for using a scale which was unjust. Mr. Crick proved finding the scale on defendant's premises, and on examination it proved to be unjust to the extent of half an ounce against a purchaser. Mr. Bishop submitted that there could be no case against the defendant, as he only used it for his own purpose and not for trade purposes. Fined £1 and costs.—Thomas Warren, baker and miller, North Petherton, was summoned for having a spring balance in his possession for use for trade, the same being unjust. Mr. Bishop appeared for defendant, who did not

attend, and pleaded guilty. Mr. Crick said he found the balance on defendant's premises. It was unjust, registering against the purchaser an ounce and a half up to 7lbs., and two ounces at 14lbs., continuing as such up to 25lbs.—Replying to Mr. Bishop, Mr. Crick admitted that the balance had the Government stamp upon it, and Mr. Bishop pointed out to the Bench that defendant purchased the balance at a local firm of ironmongers a few months ago, and was assured by them that it bore the government stamp and was perfectly correct. The Bench considered there ought to be some evidence adduced as to when the Government stamp was put on, and how long it ought to last. Ultimately they fined defendant 1s. and costs.—John Webb Willey, of Chilton Trinity, pleaded not guilty to having two balances which were unjust in his possession for use for trade. Mr. Crick explained that he found the balances in the dairy, both registering deficiencies against the purchaser. Mr. Willey said one of the balances was quite right up to June, but he then strained it and gave up using it, purchasing the other balance in consequence. The new balance bore the Government stamp similar to the one in the previous case, and he was assured by the ironmongers he would be quite safe in using it. Fined 3s. 6d. and costs.—George Cox, miller, of Woolavington, pleaded guilty to having unjust weights in his possession, and on the evidence of Mr. Crick, he was fined 5s. and costs.

## Legal.

### Important Notice.

Our readers will greatly oblige by sending us reports of cases as soon as possible after the hearing.

**MILK ADULTERATION PROSECUTIONS.**—At Ramsgate, Mr. Edward Steed, 1, Alma Road, was summoned for selling milk, part of which had been abstracted, without making disclosure of such alteration, on July 16th. The Town Clerk (Mr. W. A. Hubbard) prosecuted, and Dr. F. W. Hardman (Deal) defended.

After Mr. Hubbard's opening statement, Mr. W. D. Millard, Inspector under the Food and Drugs Act, said he purchased of defendant's wife a pint of milk, for which he paid twopence. He told her it was his intention to submit it to the public analyst, and he divided it into the customary three parts. The analyst's certificate showed that the sample contained ten parts of "milk deprived of its fat or cream." The Sanitary Committee ordered a prosecution.—Answering Dr. Hardman, witness said he acted entirely on the instructions of the Committee. He did not ask, nor did he know, where the milk came from. He believed defendant sold butter; he could not say he sold cream. The 16th July was an exceedingly hot day.

Dr. Hardman, in defence, said he could show, if he so desired, that no case had been made out, but his client had carried on business for some years without any charge having been brought against him, and he was therefore unwilling to take advantage of a mere technical objection. He should prove, however, by evidence that the milk had in no way been tampered with from the time it left the cow to the time it was sold to the Inspector. The certificate of the analyst was based entirely upon the supposition that good milk must contain at least 3 per cent. of fat or cream. An analyst could not tell any more

than anybody else whether cream had been abstracted unless he made that supposition, and he should show by the mouth of the Local Government Board itself that that supposition was absolutely misleading.

The authorities at Somerset House had taken samples from various cows, and the quantity of fat and cream found in it was considerably below the amount in the present sample. In their Twenty-second Annual Report for 1892-3, the Local Government Board admitted the great difficulty of distinguishing between the water which was a natural part of all milk and that which had been added by the dairyman. It might be the product of an old or an ill-fed cow, and science could not prove that the water had been added. Dr. Hardman proceeded to point out that the Act was not directed against articles of poor quality, but against those which had been tampered with to the prejudice of the purchaser; and said the Local Government Board admitted that the percentage of fat in pure milk varied from 2.43 per cent. to 5.97 per cent. In this case it was 2.71 per cent., and there was no proof that cream had been abstracted. He attributed the pooriness of the milk to the exceedingly hot weather which prevailed about July 16th, when the meadows were dried up, and the cows suffered from the want of nourishing food. "If a cow does nothing but stand in the shade, whisking off flies with her tail," said Dr. Hardman, "you cannot expect her to produce milk of the best quality." He should show by unmistakable evidence that the milk in question had not been tampered with in the least degree. He called Mr. Ernest E. Philpott, manager of Manstonegreen Farm, who said their dairy business had been carried on for forty years, and they kept 107 cows. They had never previously had a complaint as to the quality of the milk supplied from their farms. Most of their cows were short-horns. All milk was sold by them exactly as from the cow, and they never sold cream, except Devonshire cream,



which they purchased and sold again; nor did they make butter. There were two or three exceedingly hot days about the 16th July, and there was not a blade of green grass anywhere. The cows were off their feed accordingly, which would naturally affect the quality of the milk. He had never abstracted cream from the milk.—By the Bench: The milk went away practically hot.

Albert Gisby, of Jubilee Cottages, Manstone, employed by the last witness, also swore that the milk was delivered to defendant as it came from the cows. Hot weather naturally adversely affected milk.

Edward Steed, the defendant, gave evidence that samples of his milk had often been taken and been found satisfactory. The milk was placed in a receptacle for sale exactly as it came from the witness Gisby. It was in no way tampered with. He only sold one quality of milk, and did not sell cream. By the Bench: When the inspector came the receptacle was nearly empty.

Mrs. Steed, defendant's wife, gave like evidence. During the hot weather she mentioned to Gisby that the milk looked poor and white.

The Chairman here intimated that as there were other cases to be heard they would like to know what was the quality of the other samples taken, and whether any of the milk so supplied came from Mr. Philpott's. Mr. Millard produced his notes made at the time, and handed them to Mr. Philpott, who, however, said he only supplied part of the milk to one of the persons indicated.

After a considerable retirement, the Chairman said the Bench found that the milk was not up to the standard required by law, but they felt that there was no evidence at all to show that it had been tampered with in any way. They were bound to convict, but defendant would only be fined 1s. and costs.

SIDNEY ALLEN, manager to Messrs. Abbott Bros., Queen Street, was similarly summoned. The Town Clerk prosecuted, and Mr. W. T. Ricketts defended.

Harold Osman, employed by Mr. Millard, proved purchasing at defendant's shop a pint of new milk, which was served by a lady. Then Mr. Millard entered the shop, and defendant was sent for.

The Inspector's evidence was that he sent the last witness for the milk, following as soon as he was served. He saw the defendant, told him that he intended to have the milk analysed, and divided it in the usual way. The certificate showed that the sample contained 31 parts milk deprived of its fat or cream.

Cross-examined: Some of the milk was left at Mr. Abbott's; it would not all go in the bottles. He had several times taken samples from this shop and from their carriers. Previous samples had been found satisfactory. He knew experts differed as to the normal composition of genuine milk. In hot weather the cream rose earlier than in cold weather. Mr. Allen said, "I am sorry you came this morning, because some of the churns have gone sour, and we have had to purchase milk from elsewhere." The milk purchased by his assistant might have been part by that bought by defendant's carriers from outside.

Mr. Ricketts, for the defence, said it occurred to him that, apart from the merits of the case, there were two technical objections which would make it impossible to convict Mr. Allen. First of all the provisions of the 14th section of the Act of 1875 had not been complied with in so far as the division of the sample was concerned; and second, defendant, the manager, qua manager, was not responsible. Passing to the facts Mr. Ricketts said the firm of Messrs. Abbott Bros. had carried on business for ten or twelve years in Ramsgate, and many samples of their milk had been taken by the inspector and found to be pure. The defendant was placed in a sudden emergency and milk had to be obtained from other dealers in order to meet the demands of those with whom they had contracts. He need not repeat what had been so ably urged by Dr. Hardman as to the state of the weather in July, but some

of the milk received by Mr. Allen on that occasion was found to be unsaleable. Mr. Allen was placed in a sudden difficulty and he instructed his carriers to purchase milk wherever they could. The five carriers, returning from their rounds, brought back three quarts only, and the inspector (who had given his evidence with the utmost fairness and impartiality) took his samples from those three quarts. The excessively hot weather had concerted the milk into floating particles of butter, and it was quite conceivable that one pint of milk taken in the way described from three quarts of such milk might contain less cream than the remainder. Strict compliance with the 14th section of the Act was a condition precedent to a conviction, and it was admitted that the inspector had divided the milk into four, not three parts. In the case of *Mason v. Cowlrey* it had been held that where an inspector had purchased six bottles of a drug and poured the contents of two bottles into each of three larger vessels, that a proper division had not been made. Mr. Ricketts proceeded to deal at some length with the facts, and then called

Defendant, the manager for Messrs. Abbott Bros., who gave evidence bearing out the statements of Mr. Ricketts. The milk sold to the inspector was "buttery." The men bought it where they liked on this occasion; he instructed them to get it at any price in order to supply their regular customers.

Mr. Hubbard proceeded to reply on the points of law. He was dealing with the drug case cited, when the Chairman said, "We have quite made up our minds about that." As to the second point, as to the alleged improper division of the sample, the Chairman said the minds of the Bench were made up about that too. Mr. Hubbard was proceeding to deal with other matters, when the Chairman observed, "At this hour of the day we are quite satisfied on all these points."

After a lengthy consultation in private, the justices decided to convict, ruling against all the points raised by Mr. Ricketts, and fining defendant £1 and 9s. costs.

THE third case was that in which Jeremiah John Woodward, a dealer in a small way, was charged with selling milk, on the same date, diluted with 10 per cent. of added water. His defence was that he sold it as he received it. Fined 1s. and 9s. costs.

At Belfast, on August 20th, Inspector M'Master summoned Matthew L. Shanks, Mount Gilbert, Ballygomartin, for having on the 26th July last sold sweetmilk adulterated with 6·7 per cent. of added water. After hearing the Inspector's evidence, from which it appeared that the milk in question was disposed of on the Shankill Road, their Worships imposed a fine of £5 and costs. Mr. A. J. Lewis prosecuted.—James Morton, of Crow Glen, Ballygomartin, was summoned by the same complainant for selling sweetmilk adulterated with 14·1 per cent. of added water. Mr. M'Gonigal, who appeared for the defendant, alleged that the milk was pure when it left the defendant's house, and therefore it must have been interfered with before it was seized by the Inspector. A fine of £5 and costs imposed.—Robert James Simms, 52, Cosgrave Street, was summoned for selling sweetmilk on the 19th July, adulterated with 6·43 per cent. of added water. Defendant was ordered to pay 40s. and costs.—Wm. John Burney, 38, Earl Street, was summoned for having on the 24th July sold sweetmilk adulterated with 4·5 per cent. of added water. He was ordered to pay 20s. and costs.—Cases were also heard against John Caruth, Ballytoag, Ligoniel; George Magill, Ballynalough, Templepatrick; and Wm. John Caruth, of Mullusk. The alleged adulteration took place in July. After hearing portion of the evidence, their Worships adjourned the several cases for the production of certain witnesses.

At Southwark, on August 16th, Rees Evans, milk dealer, of Upper Marsh, was summoned by the Vestry of St. George-the-Martyr, for selling milk containing 13 per



cent. of added water. The Defendant: I am guilty. It is through the milk being short. The Clerk (Mr. Coates): So you added water to make it up? The Defendant: Yes, during the hot weather. Mr. Slade imposed a fine of £5 and 12s. 6d. costs.

At Blackpool, on August 20th, Henry Whalley, farmer, was summoned for an offence under the Food and Drugs Act. Mr. Stevens (Deputy Town Clerk) prosecuted, and Mr. Hodgson (barrister) defended. On July 9th Inspector Sanderson, whilst in High Street, purchased from the defendant's daughter a pint of new milk, which, upon analysis, was found to have been deprived of upwards of 15 per cent. of its cream. Mr. Stevens was proceeding to state that the inspector went to visit the defendant's farm, when Mr. Hodgson objected, as defendant's farm was outside the borough, and the Bench upheld him. Cross-examined by Mr. Hodgson, Inspector Sanderson said the analysis took place 14 days after the seizure. Mr. Hodgson contended that the analysis had not been carried out according to law. At the time in question the weather was very dry, and this would affect the quality of the milk. The case was dismissed.—Thomas Crane was summoned for a similar offence. In this case the milk was deprived of 25 per cent. of its cream. The Bench said what they wanted to know was whether the milk had been tampered with at all. Mr. Stevens submitted that the milk had been tampered with, and it was for the defendant to show that it had not. The defendant denied that the milk had been touched. The land was in a very poor condition. The Bench found that the milk had not been tampered with and the case was dismissed.

James Edward Heler, farmer, of Barlaston Woods, a contractor for the supply of milk to the Stoke-on-Trent Union Workhouse, was at Stoke on August 17th, fined £20 and 18s. costs for selling milk which was adulterated with water. On the 8th inst. an assisstant to Mr. E. W. H. Knight, inspector under the Food and Drugs Act, met the defendant as he was conveying milk to the workhouse, and obtained from him a pennyworth from each of four churns. The county analyst's certificate showed that the samples were adulterated to the extent respectively of 12, 10, 8, and 5 per cent. of added water. The defendant, who pleaded guilty, said he had to deliver milk at the workhouse by a certain time. On the date in question the milking proceeded slowly, and in order to avoid being late he made up the quantity of milk required by adding a can of water. It was stated that the milk was of good quality, and on previous occasions when defendant's milk had been tested it had been found to be pure. Mr. C. Daniel, clerk to the guardians, watched the case on behalf of that body.

In the Aberdeen Sheriff Court, on August 17th, Sheriff Burnet on the Bench, William Slessor, farmer, Nethermill, Tyrie, was charged with selling in Saltoun Place, Fraserburgh, on July 16th, through the medium of his son, John Slessor, a pint of milk to Inspector James Middleton, which was deficient in natural fat to the extent of 8 per cent. Mr. Alexander Clark, who appeared on accused's behalf, stated that the milk sold, from which a sample was obtained, was taken direct from the cow, without any extraneous adulteration being added, and the farmer could not understand how the milk could be deficient in fat. It had occurred from natural causes. The summer had been a very wet and sunless one, and the feeding qualities of the grass reduced in consequence. The previous night in the field was thundery, and the farmer believed that the cow might have got chilled, with the result that the milk suffered. It was a well-known fact that morning milk was invariably weaker than evening milk, and he believed this fact was brought out in an address delivered before the recent Public Health Congress in Aberdeen. In addition, one or two of the cows were, to a certain extent, out of season, so all these facts must have in the present case contributed to the deficiency in the milk. The Procurator-Fiscal remarked that the analyst told him the wet weather had nothing to do with this case.

He thought probably the cause of this deficiency was that this man in selling the milk did not stir it as he ought to do, but scooped off the top and thus withdrew the fat. The Sheriff absolved accused from any intention of defrauding customers, but remarked that he was bound to see that people got what they paid for, and ordered him to pay a fine of 25s., the option being four days' imprisonment.

At Bow Street, on August 14th, Rose Jackson, shopkeeper, of Theobald's Road, appeared, before Mr. De Rutzen, to two summonses charging her with having carried on business as a purveyor of milk without being registered, and with neglecting to cleanse the utensils used for measuring the milk. The defendant, who had an infant in her arms, pleaded guilty to both charges, but said she did not know until the Inspector called that it was necessary to register her business. Mr. Collman, who supported the summonses on behalf of the London County Council, explained that the proceedings were taken under the Dairies Order of 1885. He did not desire to press the first summons, as the defendant had since registered her business, but the offence of failing to keep her measures clean might have been attended with grave results. The defendant said she had not had time to clean the measures on the morning the Inspector called. Mr. De Rutzen ordered her to pay 20s. and costs on the second summons, and the costs on the first—24s., in all.

At Plymouth, on August 9th, Edward Kennedy was summoned for selling milk which contained 16 per cent. of added water. Inspector Addiscott, appointed under the Food and Drugs Act, deposed to going to defendant's shop, 1, Pier Street. He asked for twopennyworth of milk, and defendant's wife supplied him with a pint from a can, which was half full. He produced the analyst's certificate. Defendant's wife, who represented her husband in Court, said she sold it exactly as she got it. She had no warranty for the milk. Defendant was fined £2 and the costs, and the presiding magistrates pointed out that milk vendors should protect themselves by obtaining a guarantee. —Charles James Cooper, 1, Mount Edgecumbe Terrace, West Hoe, was similarly summoned, in this case 5 per cent. of water being added to the milk. Defendant was fined 15s. inclusive.—A summons against the Plymouth Co-operative Society for a similar offence was adjourned until September 17th, when Mr. P. T. Pearce will appear to defend. The Town Clerk (Mr. J. H. Ellis) prosecuted in the both cases.

**BUTTER AND MARGARINE PROSECUTIONS.**—Robert Cooper answered a summons in respect to some cooking butter, and pleaded not guilty at Folkestone. Albert Harman, an assistant to the inspector under the Food and Drugs Acts, deposed that he went to defendant's shop at 4, Marshall Street, and asked for half a pound of cooking butter, with which he was supplied. Mr. John Pearson, the inspector, deposed that when the purchase was complete he took possession of the butter, and informed the defendant that he should send it to the public analyst. This course was taken, and the analyst replied that the butter contained 84 per cent. of foreign fat. Defendant suggested by way of defence that the weather was very hot when the butter was purchased, and the margarine had run into it. The Chairman said the case was proved. The fine would be £5 and £1 11s. costs, or one month. The Town Clerk said there were two other summonses against the defendant, but with the permission of the Bench he would withdraw them. This course was adopted, and the fine under the first conviction paid.

At Northampton, on August 16th, Sarah Ann Eason, 42, shopkeeper, 10, King Street, was summoned for selling a pound of margarine as fresh butter, on the 3rd ult., and also for delivering the same in a wrapper on which was not inscribed in letters half-an-inch long the word margarine. Mr. W. B. Shoosmith appeared for the Corporation, and Mr. A. J. Darnell defended. Mr. Shoosmith said he did not press the case, and the magistrates, believing there was no fraudulent intention, dismissed the case.—Euclid Bleak, 34, Hill House, Weston-



by-Weedon, was summoned for selling a pound of margarine as fresh butter on the 10th of July last. Defendant was also charged with aiding and abetting Thomas Whitehead to sell a pound of margarine as fresh butter on the 10th July last; also with selling a pound of margarine and not delivering the same to the purchaser in a wrapper on which was printed, in letters not less than half-an-inch long, and, further, with aiding and abetting Thomas Whitehead in the commission of a similar offence. Thomas Whitehead, 30, confectioner, 54, Newland, was summoned for selling a pound of margarine as fresh butter on the 10th of July last; and also for not delivering the same to the purchaser in a wrapper on which was printed in letters not less than half-an-inch long, the word "margarine." Mr. W. B. Shoosmith appeared for the Corporation, and Mr. A. J. Darnell defended. In Bleak's case Frank White, Inspector under the Food and Drugs Act, gave evidence as to buying a pound of butter from Mrs. Whitehead, for which he paid 1s. 1d. Witness explained that he had bought it for analysis, and Mrs. Whitehead then stated that she sold the butter on commission for the defendant Bleak. The analysis showed that the substance was composed of foreign fats, 80 per cent.; water, 15 per cent.; and the butter fat did not exceed five per cent. It was a sample of margarine. Margarine cost 6d. or 7d. per pound. Mrs. Whitehead stated that Mr. Bleak had left butter at her shop for sale to wholesale customers for the past two years. On July 7th, Mr. Bleak left 13 lbs. of butter, and she only sold 1 lb. of it, and that was the pound to the inspector. The remaining butter was taken away by Bleak. By Mr. Darnell: That was the first complaint she had received of the butter, although Mr. Bleak had traded with her two years. The butter was left at her shop for Mr. Bleak's customers, although if she sold any over the counter to her own customers she received a penny in the pound commission. The defendant Bleak, sworn, admitted that he left the butter at the shop. He bought butter from the farmers in the district, and sold it wholesale to shops in the town. He had never bought margarine to his knowledge in his life, and always paid the price of butter. The magistrates thought the case a bad one, and fined the defendant 40s. for selling a substance which was not butter, and 10s. for selling margarine without a proper label. The other cases were withdrawn. Mr. Shoosmith asked for the case to be withdrawn against Whitehead, and to this the Bench assented.

**THE STANDARD OF WATER IN BUTTER.**—At Limerick Petty Sessions, Mr. Michael Bartley, Mulgrave Street, was summoned by Sergeant Healy, R.I.C., for having sold butter containing an excessive quantity of water. Sergt. Healy deposed that he entered defendant's shop on June 19th, and purchased one pound of butter, portion of which he forwarded for analysis to Sir Charles Cameron, whose certificate stated that the butter contained 17.74 per cent. of water, the standard being 16 per cent. Defendant stated that he had for the past twelve years been dealing with the person from whom he had got the butter, and several samples had been taken from time to time, showing a small discrepancy from what was supposed to be the standard. He thought there was no offence committed. Besides, there was no standard fixed by the law as to the percentage of water in butter. Head-Constable Feeney said several cases of this kind had come before the magistrates in the City Court, and the percentage of water in butter was as high as 19 or 20 per cent. Owing to the uncertainty of the law on the point, no fines were inflicted. Sergeant Healy said defendant was a most respectable man, and he (the sergeant) believed it was not through any fault of his that the butter was in such a condition. He had no alternative but to prosecute when Sir Charles Cameron said the percentage of water was above the standard. Dr. O'Shaughnessy said that in consequence of the defendant's good character, and the uncertainty in which this matter with regard to the standard of water in butter stood at present, they should dismiss the case.

**BAKING POWDER PROSECUTION.**—At Folkestone on August 16th, Henry Franklin appeared to a summons under the Food and Drugs Act for selling baking powder adulterated with alum. The Town Clerk prosecuted, and explained that prior to this year the subject of the charge would not have been an offence, but it was so by an amendment past at the end of last year. Defendant explained that the baking powder was purchased from the manufacturers prior to the passing of the new Act, and he relied on the statement of the manufacturer's son that it did not contain alum. He pleaded guilty. Under these circumstances the Bench did not take evidence, but fined him 40s. and 49s. costs.

**DEMERARA SUGAR PROSECUTION.**—Emily Davis, of Bitton, was summoned at Bristol on August 16th, for selling sugar to Alfred Thomas not of the quality demanded by him, but white crystal coloured with a coal tar dye in imitation of Demerara sugar. Mr. R. Willis Nurse represented the defendant. P.C. Thomas deposed to having purchased the sugar as Demerara sugar on the 17th July. He informed the daughter of the defendant, who served him, that he required it for the purposes of analysis. The certificate of the county analyst showed that the sample did not contain any real Demerara sugar. Mr. Nurse pleaded in mitigation of penalty the previous good character of the defendant, who was a widow, of 36 years' business experience, and she had brought up a large family. On this occasion she had entrusted the care of the shop to her daughter. Fined 10s. and costs.

**TUBERCULOSIS IN MEAT.**—At Halifax, on August 20th, Fred Wade, farmer, Mixenden, was summoned by the Corporation for having deposited for sale beef, which was diseased and unfit for food for man. Witness deposed that on June 22nd several pieces of beef, of a total weight of 194lbs., were found in the defendant's farm by the officials of the Corporation. It was seized, and being condemned was destroyed. The flesh was emaciated, nearly devoid of fat, and in an advanced state of tuberculosis. It was stated that a portion of the carcass and the offals were sent by defendant to a butcher's shop in Halifax on June 22nd. The butcher in question, Samuel Garth, of Battinson Road, had since been fined. Evidence in support of the charge was given by Inspector Crawshaw, Dr. Whitcombe, acting medical officer of health, and Mr. P. M. Walker, veterinary surgeon. They were all agreed that the meat was unfit for food. It was stated that defendant, in addition to being a farmer was a knacker's agent, and a horse slaughterer. The pleura of the carcass in question had been removed, and that in itself was regarded as a suspicious circumstance. The Bench imposed a penalty of £20 and costs or two months' imprisonment. The fine was paid.

**DRUG ADULTERATION PROSECUTION.**—At Tamworth, on August 14th, Richard Judd, manufacturing chemist, of Grange Road, Small Heath, Birmingham, was fined £10 and costs for selling milk of sulphur which was adulterated with 49 per cent. of sulphate of lime, and £5 and costs for selling camphorated oil which contained 95 per cent. of mineral oil instead of olive oil, and 10 per cent. instead of 20 per cent. of camphor. The prosecution was brought by Mr. G. H. Salmon, inspector under the Warwickshire County Council of Food and Drugs, for whom Mr. J. Matthews appeared, and the goods had been supplied to Mrs. Emma Cox, shopkeeper, Chilvers Coton, on June 28th. Dr. Joy, one of the magistrates, said defendant's preparation of so-called milk of sulphur was an insoluble salts. Defendant said the preparation was sold as a mixture, and it was not injurious. He had sold it for forty years. The camphorated oil was really sold by him as camphorated embrocation. In fining defendant, the Chairman (Mr. Prinsep) said defendant was carrying on a nefarious trade, and sheltered himself behind small shopkeepers, causing them to sell those deleterious things all over the country, doing harm to the public.















